STUDY: VITAMIN E NO OVERALL HELP AGAINST CANCER

Vitamin E supplementation does not reduce the incidence of cancer or major cardiovascular events, according to a recent article in *JAMA* (2005;293:1338–1347). In fact, high doses appear to actually raise the risk of heart failure in certain people, a team of Canadian, US, and British researchers reported.

The findings come from a trial known as HOPE-TOO (Heart Outcomes Prevention Evaluation–The Ongoing Outcomes). The study was a continuation of an earlier trial comparing vitamin E and ramipril in patients at high risk of cardiovascular events because of diabetes, peripheral or coronary arterial disease, or other cardiovascular disease risk factors. Participants in HOPE-TOO were randomized to take either 400 IU of vitamin E daily or a placebo.

The researchers examined overall cancer cases and deaths and found no significant differences between the two groups. Then they looked at specific cancers that previous studies suggested might be prevented by vitamin E: prostate, lung, oral, colorectal, breast, and melanoma. Even for these cancers, no significant difference was seen between the groups.

When the researchers examined heart disease incidence, they found no differences between the groups for heart attacks, stroke, unstable angina, and several other types of heart problems. However, people on vitamin E were more likely to develop heart failure.

No other study of vitamin E has looked at heart failure; the researchers suggest reviews of previous research be done to look for similar links.

The study isn’t the first to find no overall cancer or heart benefits from vitamin E, but some experts say it may be the last word on the subject.

In an accompanying editorial, University of Washington Professors B. Greg Brown, MD, PhD, and John Crowley, PhD, say the work “effectively closes the door” on the idea that vitamin E will be of major benefit in preventing cancer or heart disease.

Brown is a Professor in the Division of Cardiology at the University’s medical school. Crowley is a Professor of Biostatistics at the University’s School of Public Health and Community Medicine and a
member of the Department of Cancer Research and Biostatistics at Fred Hutchinson Cancer Research Center in Seattle.

The new research, they said, will allow doctors to give patients the following definitive answer to their questions about vitamin E:

“In nearly 68,000 patients studied to date, there is no compelling evidence that higher doses of vitamin E reduce cardiovascular risk or cancer; there are even some hints that vitamin E, in excess of normal daily intake, may slightly increase the risk of ischemic events or heart failure.

“You may hear that vitamin E is a ‘natural’ yet effective way to prevent heart disease or cancer, but this has proven to be a false hope. You should not be misled into neglecting other proven methods of prevention.”

Despite the disappointing results of this study for cancer and heart disease overall, Brown and Crowley note that vitamin E hasn’t been ruled out completely as a helpful substance for some very specific conditions, including certain cancers.

The ongoing Selenium and Vitamin E Cancer Prevention Trial (SELECT), for instance, will follow more than 35,000 men for at least 7 years to help determine whether vitamin E and selenium can protect men against prostate cancer.

In another recent study, α-tocopherol, a form of vitamin E, provided no benefit in reducing the risk of a second primary tumor among survivors of Stage I or II head and neck cancers previously treated with radiotherapy. The report in the Journal of the National Cancer Institute (2005;97:481–488) by Isabelle Bairati, MD, PhD, a Professor at the Universite Laval in Quebec, and colleagues from several Canadian and US centers, noted no difference in the likelihood of being free of a second primary tumor after 8 years of follow up between subjects in the vitamin E and placebo groups.

In an accompanying JNCI editorial (2005;97:468–470), two chemoprevention researchers from the MD Anderson Cancer Center offer their perspective on the future of cancer chemoprevention. Edward Kim, MD, Assistant Professor, Department of Thoracic/Head & Neck Medical Oncology, and Waun Ki Hong, MD, Professor and Chair of the same department, note that although results of many chemoprevention trials using vitamins such as α-tocopherol have been disappointing, it is important to investigate other chemoprevention strategies. Kim and Hong suggest that the next generation of chemoprevention trials will use novel molecularly targeted agents in subjects stratified by risk factors and biomarkers.

**AMERICAN CANCER SOCIETY (ACS) FACILITATORS BOOST COLORECTAL SCREENING IN PRIMARY CARE**

Trained facilitators can help primary care clinicians improve their colorectal cancer screening practices, researchers from Boston’s Brigham and Women’s Hospital, Harvard Medical School, and Dartmouth Medical School report in the Archives of Internal Medicine (2005;165:661–666).

They found a significant increase in the number of patients who were up to date with colorectal screening recommendations when physicians participated in an office-based intervention given by ACS staff. The ACS helped fund the research.

“Physician recommendations have been shown to be effective in getting people to go for screening, so that’s why we targeted primary care providers,” said lead study author Esther K. Wei, ScD, of Brigham and Women’s Hospital. “The problem is, a lot of physicians have limited time, so having the facilitators go in and help them set up is key.”

Primary care clinicians in Massachusetts, New Hampshire, and Connecticut were recruited for the study. Each filled out a questionnaire about how they educated patients about colorectal cancer screening, how they identified patients who needed screening, how
they verified and enabled patient compliance with screening, and how they informed patients of colorectal test results.

The ACS facilitators (one per state) met with participating doctors to discuss their responses and make suggestions for improving performance through use of a “tool kit” provided by the researchers. The tool kit included patient education materials (brochures and posters), provider education materials (screening guidelines, recent journal articles, descriptions of the various screening procedures), and compliance materials like screening reminder postcards, flow sheets, and a manual log for tracking fecal occult blood tests (FOBT).

About 6 months later, the facilitators contacted the doctors again to assess their progress. In addition to a follow-up questionnaire, some of the physicians provided medical records of screening-appropriate patients for review. Overall, 127 physicians returned both questionnaires, and 35 provided records for a total of 551 patients.

The researchers noted significant improvements in patient education efforts. At baseline, just 20.5% of physicians displayed posters or brochures about colorectal screening in the waiting or examination rooms. By the end of the intervention, however, 69.3% did. At baseline, only 15% of providers actively distributed educational brochures to patients; at follow up, that number had increased to 43.3%. Nearly all clinicians (96%) said they discussed colorectal screening with patients at baseline; this percentage was essentially unchanged by the intervention. However, the intervention increased the number of staff members who also had this discussion with patients from 20.5% to 36.2%.

The percentage of clinicians who advised asymptomatic patients to use a home FOBT increased from 85% to 89%, and the percentage of those who monitored compliance with FOBT increased from 26.5% to 52%. The authors attribute this latter improvement directly to the intervention, as the ACS facilitators helped offices set up effective manual tracking systems.

“What we found was that a lot of providers, even if they were giving out FOBT cards, were completely unaware of whether people returned them,” Wei explained. “You can give them out as much as you want, but if nobody returns them, it’s really not an effective tool.”

With the manual tracking system, office staff could log when a patient was given an FOBT card, and then use the list to follow up with patients to make sure the cards were returned for analysis.

The review of medical records showed that more patients were up to date with screening recommendations (the clinician had discussed screening with them) after the intervention: 38.7% versus 56.1%. Likewise, more patients became up to date on screening tests (the patient actually had a test) at follow up compared with baseline: 34.4% versus 43.2%. Together, these changes were highly statistically significant.

“This study reinforces the importance of office systems as a method to increase colorectal cancer screening, and in all likelihood other preventive services as well,” said Durado Brooks, MD, MPH, Director of Prostate and Colorectal programs at the ACS. “Primary care physicians have tremendous demands on their time, which can lead to focusing on urgent [care] and illness care while important services like screening fall by the wayside.”

Wei said the simple tools used in the intervention were important to its success because they provided doctors an alternative to costly computer tracking systems.

“I think overall providers know and care about colorectal cancer screening, but it’s difficult for them to incorporate these recommendations on a daily basis,” she said. “Having low cost tools can really help, and that’s a hopeful message.”

Having facilitators also was crucial.

“Tool kits that are just mailed to providers may not get used because providers don’t have
time,” she explained. “The facilitator helps them set up the system and works with the office staff, showing them how to use the tracking materials, how to customize tools [for their practice].”

Many smokers have unrealistic ideas about just how dangerous their habit really is. A new study by researchers at Rutgers University and the National Cancer Institute found that many smokers underestimate their risk of developing lung cancer and buy into common myths that make smoking seem less harmful.

The findings come from the Health Information National Trends Survey, a national telephone survey of more than 6,000 US adults, including 1,245 current smokers. Among other questions, the survey asked people to judge their own risk of developing lung cancer and the chances that other people, both smokers and nonsmokers, would develop lung cancer. The results were published in the journal Tobacco Control (2005;14: 55–59).

Current smokers thought their own risk of lung cancer was much lower than that of the average smoker. When asked to compare their lung cancer risk to that of a nonsmoker, about 21% of smokers said it was only a little higher, 23% said it was about twice as high, 22% said it was 5 times as high, and 23% said it was 10 or more times higher.

In reality, a smoker’s lung cancer risk can be between 10 and 20 times higher than that of a nonsmoker, depending on how many cigarettes are smoked and how long the person has smoked.

Lead study author Neil Weinstein, PhD, who has done extensive research on this subject and testified about smokers’ risk perception in federal trials against the tobacco industry, said he wasn’t surprised by the misconceptions seen in the survey.

“Even though people know smoking is unhealthy, there isn’t much they encounter that tells them how big the risk is,” said Weinstein, a Professor in the Human Ecology Department at Rutgers and an Associate Member of the Arizona Cancer Center in Tucson. “It’s a continuing challenge, not only in smoking but in all sorts of health behaviors, to help people realize the size of the risk, not just that there is a risk.”

The National Cancer Institute has a tool created with Dr. Weinstein and ACS researchers Michael Thun, MD, MS, and Jane Henley, MS, that allows smokers to calculate their personal lung cancer risk. It is available online at http://cancercontrol.cancer.gov/tcrb/smokersrisk/.

Smokers were also more likely to believe certain myths that minimize the danger of smoking.

More than one half said exercise undoes most of the effects of smoking, and 28% said vitamins could do that, too. Nearly 36% said developing lung cancer depends on genes more than anything else.

“People don’t like to believe that their activities put them at risk,” Weinstein observed, “and they’re creative at finding reasons—at least convincing to themselves—that their risk isn’t as high as people say it is.”

Although inherited genes do play a role in some lung cancers, tobacco smoking is directly responsible for more than 87% of lung cancer cases, according to ACS statistics.

Studies of exercise and lung cancer have had mixed results, and so far no studies have proven that vitamins can reduce the risk of lung cancer. In fact, in one study, beta carotene supplements actually appeared to raise the risk of lung cancer in smokers.

The survey shows that many people are confused about the risks of smoking, Weinstein said, despite public campaigns to educate them about the dangers.
“One big issue is that even if we can get people to acknowledge that smoking is not healthy, we can’t assume that smokers agree that it’s unhealthy for them,” he said. “They find various reasons for thinking that the way they smoke, and the kind of cigarettes they smoke, and all kinds of other pseudofactors mean that it’s not as bad as for other smokers.”

Some of the survey results point to topics doctors could broach with smokers—the huge difference in lung cancer risk, for instance—to help clarify the dangers, Weinstein said.

“We need to try different ways of approaching them,” he said.

Dileep Bal, MD, Chief of the Cancer Control Branch of the California Department of Health Services and former president of the ACS, agreed.

“We do need to change how we talk to smokers,” he said.

But Bal emphasized that changing community views about smoking is likely to make a bigger impact. Restricting tobacco advertising and sales and curbing public smoking have been successful strategies in California, he noted.

ACS REPORT: HALF OF CANCER DEATHS COULD BE PREVENTED

More than one half of all cancer deaths in the United States could be prevented if Americans adopted a healthier lifestyle and made better use of available screening tests for the disease, a report from the ACS states.

The information is contained in Cancer Prevention and Early Detection Facts & Figures 2005 (CPED), a comprehensive report that focuses on the major modifiable risk factors for cancer. The report highlights trends in tobacco use, eating habits, exercise patterns, and weight gain among adults and children. It also discusses cancer screening and ways to help more people take advantage of these potentially lifesaving tests.

CPED is a useful resource for clinicians, public health professionals, health care administrators, and policy makers working to strengthen cancer prevention and early detection efforts at a national, state, or local level, said Elizabeth Ward, PhD, Director of Surveillance Research for the ACS and one of the authors of the report.

In some areas, the report shows that the United States has made progress in reducing the threat of cancer. For instance, tobacco use causes about 30% of all cancer deaths in the United States, according to the report. Real progress has been made in reducing smoking among adolescents and adults, with per-capita cigarette consumption lower than at any other point since the start of World War II. The declining prevalence of smoking has resulted from a number of tobacco control measures, including higher tobacco taxes, laws limiting smoking in public places, and antismoking advertising.

But the report warns that many of the state programs that helped lower smoking rates have been drastically scaled back because of budget problems, jeopardizing that progress. Indeed, the most recent report from the Centers for Disease Control and Prevention, released just days after the publication of CPED, indicated that smoking among middle and high school students remained stable between 2002 and 2004, rather than declining (MMWR 2005;54:297–301). The MMWR report further notes that the total investment in statewide tobacco prevention and control programs decreased 28% from 2002 to 2004.

The report also includes data on trends in tobacco use stratified by race, ethnicity, education level, and state of residence, as well as an update on progress by states, counties, and cities in adopting smoke-free legislation. Examples of successful legislation and programs are highlighted, and the economic impact of smoke-free legislation is reviewed.

CPED also highlights the increasingly serious problem of excessive weight gain among children and adults.
About 35% of US adults are overweight and another 30% are considered obese; nearly 16% of children 6 to 19 are overweight or obese. The report notes that about one half of overweight children and 70% of overweight adolescents remain overweight into adulthood, raising their risk of developing cancer and other serious diseases.

The obesity problem stems from a number of factors, according to the report. High-calorie foods are widely available and heavily marketed. Americans rely more than ever on cars to get around. Schools have cut physical education programs; many kids favor television, video games, and computers over outdoor activities.

CPED reviews what is known about the impact of overweight and obesity on the risk of various forms of cancer. The report summarizes data on racial, ethnic, socioeconomic, and geographic variation in weight and in behavioral risk factors related to weight. It also highlights policy initiatives and community successes that have fostered environmental changes that promote healthy weight, physical activity, and nutrition.

The report makes a number of recommendations for fighting the obesity trend. One of them is to follow ACS guidelines for nutrition and exercise. Others include encouraging restaurants to provide nutrition information so diners can make better food choices, designing communities that encourage exercise with safe sidewalks, bike lanes, and parks, and improving the quality of food served to children at school.

Lifestyle changes that lower cancer risk are only part of the cancer equation, though. Following screening recommendations is also crucial to reducing the risk of dying from cancer.

CPED contains a summary of ACS cancer screening recommendations and summarizes available data on adherence of the US population to those guidelines. Stratification of these data by race, ethnicity, education, and geographic location highlights the need to overcome disparities in use of these lifesaving tests. The report also includes discussion of some of the barriers to wider screening and strategies for overcoming these barriers.

CPED can be ordered through the ACS’s toll-free number, 1-800-ACS-2345, or downloaded from the Facts and Figures page of the ACS Web site, www.cancer.org.

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