

## Antioxidant Supplements Raise Death Risk

Antioxidant Supplements Raise Death Risk: Study Shows No Benefit, Slightly Higher Death Risk For Antioxidant Supplements

**Michael's note: As you read this article, bear in mind that when they are talking about vitamin A, vitamin C or vitamin E they are referring to the fractionalized synthetic supplements that, in this country, are sold as vitamins. They are not the same as the vitamins found in whole foods, and this article proves it once again. Synthetic supplements are at best useless and at worst, they can be lethal.**



Use of the popular antioxidant supplements beta-carotene, vitamin E, or vitamin A slightly increases a person's risk of death, an overview of human studies shows.

The study also shows no benefit — and no harm — for vitamin C supplements.

Selenium supplements tended to very slightly reduce risk of death.

Oxidative stress — caused by highly reactive "free radical" compounds circulating in the blood — is a factor in most diseases.

Antioxidants sweep up these free radicals. It seems to be a no-brainer that taking antioxidant supplements would protect your health. But it may not be that simple.

A new, detailed analysis of human studies of beta-carotene, vitamin A, and vitamin E shows that people who take these antioxidant supplements don't live any longer than those who don't take them. In fact, those who take the supplements have an increased risk of death.

The finding, reported in *The Journal of the American Medical Association*, comes from Goran Bjelakovic, M.D., DrMedSci, of the University of Nis in Serbia; Christian Glud, M.D., DrMedSci, of Copenhagen University Hospital in Denmark; and colleagues.

"Our findings have already changed the way I counsel my patients about

antioxidant supplements," Bjelakovic tells WebMD in an email interview.

"According to our findings, beta-carotene, vitamin A, and vitamin E cannot be recommended. I am telling them that they should stop using these supplements."

"There is no reason to take anything that hasn't been proven beneficial. And these antioxidant supplements do not seem beneficial at all," Glud tells WebMD.

Not everyone agrees. Nutritionist Andrew Shao, Ph.D., is vice president for scientific and regulatory

affairs at the Council for Responsible Nutrition, a supplement-industry trade group.

"Consumers can feel confident in relying on their antioxidant supplements as they always have," Shao tells WebMD. "They can continue to take them knowing they will provide the same benefits — and this article does not change that."

### **Antioxidant Supplements and Death Risk**

Bjelakovic, Gluud, and colleagues analyzed data from 68 randomized clinical trials of antioxidant supplements that included 232,606 people. When they looked at all the trials together, they found that the supplements offered no benefit but did no harm.

However, some of the trials were more exactly controlled than others. There were 21 trials that had a "high bias risk." These trials had one or more problems with randomizing study participants to the supplement or placebo groups, with blinding both the participants and the investigators to whether participants received supplements or placebos, and/or with following up on all participants until the end of the study.

So the researchers looked only at the 47 "low-bias-risk" studies — which included nearly 181,000 participants and which did not include people taking selenium. They found that:

Taking vitamin A supplements increased the risk of death by 16 percent

Taking beta-carotene supplements increased the risk of death by 7 percent

Taking vitamin E supplements increased the risk of death by 4 percent

Taking vitamin C supplements did not have any effect on risk of death Shao says it just isn't fair to study antioxidants in this way.

"What these authors have done is combine studies that are incredibly dissimilar in all sorts of ways," he says. "These studies looked at different nutrients at different doses at different durations with different lengths of follow-up — and in different populations, ranging from folks who were incredibly healthy to people with cancer and other diseases."

Moreover, Shao says, the researchers looked only at studies in which people died. That left out 405 clinical trials, which he says skews the results in favor of death risk. And he points out that the researchers original 68 studies did not show any harm from supplements.

"These questions cause one to step back and wonder if the findings are relevant to the healthy population that uses these supplements to maintain

health and avoid chronic disease," Shao says. "That is a point they don't make: that antioxidants are not used to treat cancer or heart disease. They are used for disease prevention."

Edgar R. Miller III, M.D., Ph.D., associate professor of medicine at Johns Hopkins University, in 2004 analyzed clinical trials of vitamin E.

He found that high doses of vitamin E did more harm than good. Miller has high praise for the Bjelakovic/Gluud study.

"This is a great study. It is the highest form of scientific evidence," Miller tells WebMD. "I don't think that [Shao's] criticism is legitimate. I argue this is the best technique to analyze all this information."

Gluud and Bjelakovic strongly disagree that they "cherry picked" only studies that fit some preconceived conclusion. They point out that all of their methods are "transparent" and open to public view.

"Anyone is welcome to criticize our research," Gluud says. "But my question is, what is your evidence? I think the parties that want to sell or use these antioxidant supplements in the dosages used in these trials, they want [to see only] positive evidence that it works beneficially."

### **Advice to Consumers**

Kathleen Zelman, MPH, R.D., L.D.,

is director of nutrition for WebMD. She reviewed the Bjelakovic/Gluud study for this article.

"This is a very comprehensive, to-be-respected analysis. This isn't just another study coming out," Zelman says. "The bottom line is that antioxidant supplements are not a magic bullet for disease prevention. We hoped maybe they were, but they are not."

If you are interested in protecting your health, Zelman says, pills aren't the answer.

"There is no single food or nutrient that is going to be the answer. The secret really is lifestyle," she says. "And the most important things

about lifestyle are being at a healthy weight, being physically active, and eating a healthy diet."

Shao says he's not persuaded to stop taking antioxidant supplements.

"I take antioxidant supplements every day," he says. "I know more about these nutrients than most people do, including the authors of this study, who are not nutritionists. This does not change a thing for me. You can take that to the bank."

Zelman has this advice: If you plan to continue taking antioxidant supplements, don't exceed the recommended daily doses.

"For nutritional insurance, my sug-

gestion would be a once-daily multivitamin," she says. "But for those people who take multiple supplements, and are going to continue to do so, heed the warning and be sure to respect the safe upper dosage limits."

"If you are in doubt, take the time and go to your doctor and talk with her or him," Gluud advises.

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