

2011 Top Game Changers in Primary Care:

**1. And the Top Game Changer Is...
The Dark Side of Vitamins and Supplements**

Vitamin supplements associated with increased risk for death.

New findings from Iowa Women's Health Study, ^[15] published in October 2011, showed very few benefits if any of vitamin or mineral supplements. In fact, there was a suggestion of some risk associated with several of them. The study followed more than 38,000 women, with an average age of 62, for up to 22 years. There were more than 15,000 deaths during the follow-up period. Vitamin B6, folic acid, iron, magnesium, and zinc were associated with about a 3%-6% increased risk for death, whereas copper was associated with an 18.0% increased risk for total mortality when compared with corresponding nonuse. In contrast, use of calcium was inversely related to risk for death

Jo-Ann Manson, MD, said, "This report serves as a cautionary tale about the potential risks related to dietary supplements and makes the point that more is not necessarily better. In the United States, about 50% of adults are currently taking 1 or more dietary supplements, and it is a \$20-plus billion annual industry. But are consumers really getting value for the money spent?"

Arch Intern Med. 2011;171:1625-1633,1633-1634.

Calcium supplements and myocardial infarction: the evidence grows.

A study on the cardiovascular risks associated with calcium supplements, published in the *BMJ* in April 2011, was an expanded and enhanced analysis of a report previously showing 30% risk for myocardial infarction linked to calcium supplements alone. The more recent study extended to people who are also taking vitamin D. The new evidence pointed to a roughly 20% increased risk for both myocardial infarction and stroke in people taking both calcium and vitamin D, according to Dr. Mark Bolland (University of Auckland, New Zealand) and colleagues.

Dr. Bart Clarke (Mayo Clinic, Rochester, Minnesota), an endocrinologist, commenting on the results for heartwire, agreed that Bolland and colleagues' latest paper is unlikely to be the "final" word. But he also speculated that another randomized controlled trial addressing this specific question was unlikely to take place. "This does raise the level of concern several notches," he admitted. "I'm not sure it's going to change clinical practice in all settings, but it's going to make us a lot more cautious about recommending standard doses of calcium and vitamin D supplementation."

Vitamin D may not protect from death, cardiovascular risk.

A systematic review and meta-analysis reported in the July 2011 issue of *The Journal of Clinical Endocrinology & Metabolism* further supported findings that vitamin D does not protect against mortality and cardiovascular risk. "Several studies found association between vitamin D levels and hypertension, coronary artery calcification, and heart disease," wrote Mohamed B. Elamin, from the Knowledge and Evaluation Research Unit at Mayo Clinic in Rochester, Minnesota, and colleagues. "The practice implications of this systematic review indicate that recommending vitamin D to patients to reduce cardiovascular risk is not consistent with the current evidence," the study authors conclude. "Individuals will require the age- and sex-appropriate daily intake of vitamin D and may require additional supplementation for other indications such as bone health, but not for cardiovascular risk reduction."

J Clin Endocrinol Metab. 2011; 96:1931-1942.

Vitamin E supplements may raise the risk for prostate cancer.

Vitamin E supplementation in men does not protect against prostate cancer; instead, it might increase risk. The initial report of SELECT published this October found that neither selenium nor vitamin E supplements reduced the risk for prostate cancer. In fact, an updated analysis, which appears in the October 12 issue of *JAMA*, shows that vitamin E supplementation can significantly increase the risk for prostate cancer. Men who received a common dose and formulation of vitamin E (400 IU/day) had a significant 17% increased risk for prostate cancer vs men who received placebo.

JAMA. 2011;306:1549-1556.