Should you still take that multi?

About one-third of Americans take one, but recent research may give them doubts

Daily multivitamin/mineral pills are the most popular supplements in the U.S. Ask people why they take them, and most will say it’s to make up for poor eating habits, to help prevent a variety of diseases, or just to stay healthy in general. However, there has been surprisingly little good clinical evidence to support the claims made for multis (the same is true of most individual vitamin or mineral supplements).

In December, two studies in the Annals of Internal Medicine failed to find benefits from multis, prompting the authors of the accompanying editorial to title it “Enough is enough: Stop wasting money on vitamin and mineral supplements.”

Meanwhile, in February, the influential U.S. Preventive Services Task Force, independent experts who advise the government, concluded that it still couldn’t recommend for—or against—taking multis. Where does all this leave people who take these supplements?

High hopes, unexpected results

It's logical to think that multis could be beneficial. After all, vitamins and minerals are essential to life, and experts keep pointing out that the diets of many Americans fall short in some key nutrients. There’s no doubt that when people are truly deficient in a vitamin or mineral—in which case they can develop a “deficiency disease” such as rickets (vitamin D deficiency) or scurvy (vitamin C deficiency)—a supplement will help. But such severe deficiencies are rare today in the developed world.

What’s more, lab research shows that besides their known biochemical roles in the body, many vitamins and minerals also have antioxidant, anti-inflammatory, and other effects that may, in theory at least, help stave off chronic conditions such as heart disease, cancer, and dementia. Also encouraging is the fact that many (though not all) observational studies have found that people who take vitamin and mineral supplements on their own tend to be at lower risk for a variety of diseases. However, such studies do not prove cause and effect. For instance, supplement takers may be more health-conscious in general, which could explain the apparent benefits.

That’s why randomized clinical trials, which compare a drug, supplement, or other intervention to a placebo, are necessary. To date, such trials on multis have been relatively small and short and have yielded mostly disappointing results. Thus, the Annals studies got lots of attention.

The first trial, part of the Physicians’ Health Study II from Harvard, involved nearly 6,000 men over 65 who were given either a standard daily multi (Centrum Silver) or a placebo for more than a decade. Periodic cognitive testing found that the multi did not slow age-related declines. Previous trials, not as big or long as this one, have produced inconsistent results about the potential benefits of multis on cognitive health. It’s possible that if supplementation had begun at earlier ages and if the subjects had been less well-nourished and less well-educated, the results might have been different, the researchers speculated.

The second study, funded by the Na-
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The National Institutes of Health, involved 1,700 people across the U.S. and Canada who had previously had a heart attack. Half were given a high-dose multi formula specially designed by complementary and alternative medicine practitioners, half took a placebo. Over an average of five years, those taking the multi did not have a reduced risk of a second heart attack or other cardiovascular events. However, many subjects withdrew or did not stick with the regimen, in part because it involved six large caplets a day, so the validity of the findings is limited.

The bigger picture

In the same issue of the Annals of Internal Medicine, an updated review done for the Task Force evaluated 26 well-designed clinical trials on vitamin and mineral supplements for the prevention of cardiovascular disease or cancer published since 2005. Most of the studies involved single or paired nutrients and found no benefits. Five of the studies looked at multis. One positive result came from a 2012 clinical trial that was also part of the Physicians’ Health Study II, involving 14,600 men over 50. It found that those taking a multi (Centrum Silver again) for 11 years had a small reduction in cancer risk; there was no effect on the risk of cardiovascular disease. Similarly, a French study using a five-ingredient multi found a slightly lower cancer risk in men, but not women, and no cardiovascular benefit. In none of the trials was there a reduction in mortality rates among multi takers. The trials in the review included mostly healthy, well-nourished people, so the findings may not apply to the targeted use of nutrients in those who are deficient, the researchers noted.

On the basis of this review, the Task Force concluded that there is still “not enough evidence to assess the balance of benefits and harms” of taking multis or most other vitamin or mineral supplements.

Who should consider taking a multi?

Despite the lack of evidence supporting the use of vitamins and minerals in the general population, there are some groups for whom a basic multi (supplying 100 percent of the Daily Value for most vitamins and minerals) makes sense:

- Women who may become pregnant should consume at least 400 micrograms daily of folate to help prevent neural tube birth defects—a basic multi is an easy way to get this. Folic acid, the form of the B vitamin folate used in supplements and fortified foods, is better absorbed than the folate naturally found in foods, which is why the U.S. Preventive Services Task Force and the World Health Organization advise a daily multi for women who may become pregnant. Premenopausal women, especially those who bleed heavily during menstruation, may also benefit from the iron in a multi.

- Pregnant or breastfeeding women should probably take a multi but need to discuss this with their health care providers.

- Strict vegetarians, who eat no animal products, may not get enough vitamin B12, zinc, iron, and calcium.

- People on prolonged weight-loss diets (particularly ones that are very low in calories) or other restrictive diets may fall far short in nutrients. The same is true of people who are recovering from surgery or have a serious illness that disrupts normal eating.

- What about older people in general? Though there are few long-term studies focusing specifically on people over 65, many of them may benefit from a basic multi because they tend to have a harder time absorbing or utilizing certain nutrients. In addition, they are more likely to be on medications—notably proton pump inhibitors or H2 blockers (for heartburn and reflux disease)—that block absorption of some nutrients. Some older adults may also have decreased appetite and eat less, and thus get fewer nutrients. Major problem nutrients are vitamin D, certain B vitamins, and magnesium. In particular, older people have trouble absorbing vitamin B12, which is why “silver” multis contain higher amounts (usually 25 micrograms, four times the Daily Value). For people diagnosed with a B12 deficiency, even higher doses may be necessary (see Wellness Letter, April 2013).

Words to the wise: A multi need not cost more than a few cents a day; especially if you avoid (as you should) high-dose formulas. Store-brand and generic products are usually as reliable as brand-name pills. It’s best to get calcium from your diet, but if you don’t consume enough from food, be aware that multis don’t contain much, so you may need a calcium supplement. Similarly, if you want to get at least 800 to 1,000 IU of vitamin D a day, as many experts advise, a basic multi won’t supply enough (generally 400 or 500 IU).

That’s the same conclusion it reached a decade ago, except now it advises against taking separate beta carotene or vitamin E supplements because of safety concerns.

Our advice

If multis have an effect—good or bad—it is likely to be small. Even though the Annals editorial concluded that multis (and other supplements) are ineffective at preventing major chronic diseases, it did point out that “available evidence does not rule out small benefits or harms in the general population or large benefits or harms in a small subgroup.” The two studies on multis suggesting a reduction in cancer risk, mentioned above, need to be replicated, especially because the benefit was small and only in men.

Multivitamins formulas vary greatly, so even if there were benefits (or harms), it would be very hard to know which components were responsible, or at what doses. As it is, the weight of evidence suggests that multis provide little or no benefit for most well-nourished people, who ironically are the ones who tend to take supplements. Those who would be most likely to benefit from supplementation—that is, people who are truly malnourished—are least likely to take them.

But what if, like most Americans, your diet falls short of the recommended intakes for some vitamins and minerals? Should you take a multi? It depends how far you fall short. If your diet is merely "suboptimal," there’s no convincing evidence that you’ll benefit from a multi. If, however, you have severe deficiencies (because of malnutrition, for instance, or absorption problems), targeted supplementation, under medical supervision, may be necessary. If you are living totally on junk food, no supplement—even one with dozens of components—can make up for the vitamins, minerals, and other potentially beneficial compounds found in vegetables, fruits, whole grains, and the rest of a healthy balanced diet.

Are multis safe? There’s no evidence of harm from those supplying 100 percent of the recommended intake (listed as Daily Values on the labels). But again, multis vary so much, it’s hard to give them all a pass. And some contain nutrients that can be dangerous in very high doses (such as beta carotene, vitamins E and A, iron, zinc, selenium, or copper) or include herbs and other substances of unknown safety.