Multivitamins: Should you buy this insurance?
Studies have raised doubts about vitamins, but the multivitamin pill is still a good idea.

The daily multivitamin pill is no substitute for a good diet. But none of us is perfect when it comes to healthful eating. We may know all about the virtues of leafy green vegetables and whole grains, but convenience and cravings lead us astray. The multivitamin is partial protection from our lapses.

It’s also an easy way to add surplus vitamins and minerals to our diets. By definition, vitamins are organic (carbon-based) compounds needed in only small amounts. Minerals serve a similar purpose, but are inorganic. Historically, nutrition focused on vitamin deficiencies that cause disease. But with fortification—the systemic addition of nutrients, chiefly vitamins, to the food supply—and no shortage of food, the focus changed to whether vitamins and minerals in amounts larger than we need might protect us against conditions like heart disease and cancer.

Studies go against vitamins
Some people scarf down megadoses, an approach most experts disagree with. The daily multivitamin is the cautious substitute that some extra vitamins and minerals will pay off in better health even if deficiencies aren’t a problem.

Lately, though, it’s been looking like they might not, as high-profile studies have come to negative conclusions.

It’s well established that a trio of B vitamins—B₉, B₁₂, and folate—lowers homocysteine, an amino acid that’s a risk factor for heart attack, stroke, and dementia. The logical supposition: Having an ample supply of those Bs coursing through your veins (and arteries) could improve your chances of avoiding cardiovascular disease and cognitive decline.

But results from a large randomized controlled trial published in the New England Journal of Medicine (NEJM) in April showed that while the B vitamins lowered homocysteine levels, that didn’t result in fewer heart attacks or other major cardiovascular events. A second disappointing study was published in NEJM in June. Despite their homocysteine-lowering prowess, B vitamins were no better than placebo at protecting people from cognitive decline.

Vitamin E hasn’t been faring too well, either. Johns Hopkins researchers dubbed 2005 the annus horribilis for the vitamin because of all the disappointing studies, chief among them their meta-analysis that found that large daily doses (400 IU and up) increased mortality risk.

NIH shrugs its shoulders
The National Institutes of Health (NIH) convened a meeting on multivitamin and mineral supplements in May. The NIH holds these “consensus conferences” several times a year on a variety of subjects. Experts listen to presentations by other experts for a couple of days, then issue a “state of the science” statement.

In this case, the statement was extremely cautious. Present evidence is “insufficient to recommend either for or against the use of multivitamin/multimineral supplements by the American public to prevent chronic disease,” was the inconclusive conclusion. The experts noted that the heaviest users of vitamin and mineral supplements are Americans who probably need them the least: People who are well-educated, have higher incomes, exercise, and already have healthy diets.

Yes to a multivitamin
Dr. Walter Willett, chair of the Harvard School of Public Health’s nutrition department and a member of the Health Letter’s editorial board, has suggested that taking a multivitamin daily is a form of nutritional insurance. He still says it’s a good policy, despite the spate of negative study results.

Those results have come from randomized controlled trials, which are usually regarded as the gold standard. But there are problems with clinical trials, too. They’re often fairly short, so a nutrient’s long-term consequences may be missed. For example, Dr. Willett says that beta carotene didn’t look like it was having any effect on cognition at the 12-year mark in Harvard’s Physicians’ Health Study, but at 18 years, benefits were detected.

There are also often questions about how applicable the results of clinical trials are. Some of the recent negative findings have come from studies that enrolled people who had vascular disease or diabetes. High-risk individuals tend to have more “events,” so there’s more data for analysis, and the results are more reliable statistically. But how relevant are the findings to healthier folks? With the recent B vitamin research, it’s the reverse: The patients in those studies had homocysteine levels that were normal or just slightly elevated, so the results may not apply to people with higher levels.

Multivitamins are already part of some official recommendations. The federal government’s 2005 Dietary Guidelines suggest that people older than 50 take them as a way to ensure adequate vitamin B₁₂ intake. And the Centers for Disease Control and Prevention advises all women of child-bearing age to take folic acid—and a multivitamin is also a good way to do that—because doing so lowers the risk of birth defects. That leaves men age 50 and under as the only adult group not covered.

If you take a multivitamin, be sure to buy a major brand-name or store-brand product. When Consumers Union tested cut-rate products a couple of years ago, it found that almost half didn’t contain the listed amount of at least one nutrient.

On the next two pages, we give some pointers about many of the vitamins and minerals you’ll find in a multivitamin. We’ve separated vitamins and minerals because of space constraints. In reality, they are all in one pill.
Focus on multivitamins

Vitamin A.
Look for a brand that gets a large percentage of its vitamin A from beta carotene. Large amounts of retinol, which in multivitamins comes in the form of vitamin A palmitate or acetate, have been linked to an increased risk of hip fractures. Too much beta carotene can also be a problem: Controlled trials have shown that high doses increase lung cancer incidence and mortality among smokers and male asbestos workers, but the amounts tested in those studies were much larger than those in multivitamins.

Thiamine (B1).
You’re probably getting enough from your diet because of fortification and our abundant food supply, so the multivitamin isn’t protecting against deficiency. Extra thiamine doesn’t seem to have any health benefits.

Riboflavin (B2).
The same story as thiamine: A normal diet provides enough, and large amounts don’t bring anything extra to the table.

Niacin (B3).
Rare instances of deficiency are associated with alcoholism or uncommon metabolic diseases. Niacin, which is sometimes called nicotinic acid, is used as a cholesterol medicine, but in doses much larger (1,000–2,000 mg a day) than the 20 mg in the typical multivitamin.

B6.
The 2 mg in the typical multivitamin, on top of what you get in your diet, may pay health dividends. A Harvard study found that fairly large amounts (8.6 mg daily) may protect against colon cancer. When taken with B12 and folate, B6 lowers homocysteine, a risk factor for heart disease, although whether those reductions translate into a lower risk for heart problems is still up in the air.

B12.
If you’re older than 50, B12 may be one of the main reasons to take a multivitamin. With age, a large percentage of people don’t produce the stomach acid needed to separate the vitamin from animal protein so it can be absorbed, whereas the crystalline form in vitamin pills and fortified cereals is readily taken up. Well before you reach outright deficiency, low levels of B12 may produce subtle cognitive and neurological deficits. Another reason to get lots of B12: Low amounts, in combination with high folate intake, may hasten cognitive decline.

Biotin.
It’s in the same category as pantothenic acid.

Vitamin C.
Does the C stand for confusion? There’s a lot surrounding this vitamin. It’s a powerful antioxidant, but studies have flip-flopped on whether it prevents cancer or heart disease. Some even suggest that it can promote oxidative damage. Overall, the vitamin seems to do more good for our health when it’s in food rather than packed into a pill. As for the common cold, large amounts (1,000 mg) may shorten a cold, but evidence for prevention is shaky at best.

Vitamin D.
We probably should be taking more than the Daily Value—up to 800–1,000 IU. It’s good for bones because it aids absorption of calcium, but it may also help protect against cancer, diabetes, and multiple sclerosis. More multivitamins with 1,000 IU will be available soon. Look for them.

Vitamin E.
It ranks with vitamin C in the confusion department. Randomized trials have been inconsistent. A recent meta-analysis hinted at possible harm. Longer studies in different sorts of people (healthy versus those with pre-existing disease) might come out differently. Regardless, the 30 IU dose in many multivitamins is probably too little to have much of an effect either way.

Vitamin K.
Epidemiologic studies have found that it might be a bone protector. People taking the blood thinner warfarin need to watch their intake. The more vitamin K in your diet, the more warfarin you’ll need.

Folic acid.
Low levels are rare now that all grain products are fortified with folate, so the 400 mcg in most multivitamins isn’t as critical as it might have been pre-fortification. Still, folate supplements for women of childbearing age have been a big success story, making neural-tube defects in babies far less common.
Calcium.
Multivitamins make a minor contribution to calcium intake. Most brands contain 10% or less of the recommended daily intake of 1,200 mg. The mineral is too bulky to fit much more than that into a single pill already crammed full with other minerals and with vitamins. Although calcium is important for bone health, adequate doses of vitamin D probably do more for it than the recommended daily intake of calcium.

Potassium.
Multivitamins make an even smaller contribution when it comes to our potassium intake. For example, Centrum Silver has 80 mg, or just 2% of the 3,500 mg Daily Value. Too bad there isn’t more, because it’s difficult to get the recommended amount from a normal diet alone, and it’s an important nutrient that helps offset the blood pressure–raising effects of sodium.

Iron.
Premenopausal women are supposed to get 18 mg daily, and women who are pregnant should aim for 27 mg. But the rest of us only need 8 mg of iron, which is relatively easy to get with a normal diet, so a multivitamin with a small amount of iron is okay. In fact, large amounts might do some harm. They’ve been associated, albeit tentatively, with increased risk for heart disease and possibly some neurological disorders. One of the more common genetic diseases, hemachromatosis, can cause even modest amounts of iron supplements to damage vital organs.

Phosphorous.
It’s amply supplied by normal eating and readily absorbed, so it probably doesn’t need to be in your multivitamin. Most brands throw in a small amount (about 50 mg, or 5% of the recommended intake).

Iodine.
Many brands contain 100% of the recommended amount. Because people are avoiding table salt, iodine intake is down, so an iodine boost from a multivitamin might help prevent goiter, an enlargement of the thyroid gland. But too much iodine can be a problem too, causing other types of thyroid disorders.

Magnesium.
Look for a multivitamin that contains at least 100 mg. Most of us don’t get enough magnesium from our diets, so a multivitamin helps make up the shortfall (eating more fruit and vegetables and whole grains helps too). Don’t fret too much. Moderately low magnesium levels have been linked to cardiovascular disease, but the evidence so far is weak.

Zinc.
The 15 mg in many multivitamins is an important nutritional safety net for many people. Vegetarians may run low on zinc because it’s poorly absorbed from plant foods. Heavy drinkers may too, because alcohol interferes with absorption of zinc. People with gastrointestinal disorders like Crohn’s disease are prone to zinc deficiency. Even if you’re not in those groups, extra zinc may have some benefits, ranging from wound healing to preserving sense of taste and smell. The vitamin and mineral combination that slows the progression of macular degeneration includes 80 mg zinc. The amounts in multivitamins don’t pose problems, but don’t overdo it with zinc supplements. Too much of the mineral can lower “good” HDL cholesterol, cause gastritis, and create copper deficiency.

Copper.
This is not a nutrient to worry about unless you’re plying yourself with zinc. Outright deficiencies occur only in special circumstances, and there’s not much evidence of health problems if your intake is low.

Selenium.
Most people get enough from their diet. The jury is out on whether selenium might protect men against prostate cancer. Some multivitamins for men aren’t waiting for the verdict and contain 200 mcg. That’s three times the recommended amount, but well below 400 mcg, the daily amount that’s considered unsafe.

Chromium.
Low intake may increase your risk of developing diabetes or having a heart attack. Extra chromium may help people who already have diabetes by enhancing the effects of insulin, which helps control blood sugar. But the research is mixed, so there’s a lot of debate among experts about chromium. Some brands of multivitamin contain 150 mcg. There’s no evidence that high amounts of chromium in pill form cause bad health effects.
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