

Supplementary Knowledge

*Nutritional supplements can help balance your diet, but **get the facts** on what works, what doesn't—and when they could be downright dangerous*

About half of all Americans take dietary supplements, whether to patch nutritional holes in their daily diet or in an attempt to bolster their brainpower, boost their mood or keep the spring in their step.

Popping a pill with breakfast is far easier than preparing three square meals a day, but experts like Carol Haggans, a scientific and health communications consultant for the U.S. Office of Dietary Supplements, emphasize that the products are called supplements for a reason—they're best used as an *addition* to a well-balanced diet, not a replacement for one.

"We've learned that you can't necessarily isolate a compound from a food and expect it to have the same effect in the body," Haggans says. "Plus, many foods have phytochemicals and compounds that may work best synergistically."

By Sam Mittelsteadt

Dan Fabricant, director of the U.S. Food and Drug Administration's dietary supplements division, cautions that because supplements aren't regulated as closely as drugs, consumers should be "particularly wary" of claims made on supplement labels.

The Office of Dietary Supplements, part of the National Institutes of Health (NIH), sponsors dietary research and summarizes scientific literature about supplements for health professionals and consumers. Free consumer fact sheets at ods.od.nih.gov run through the benefits of, recommendations for and warnings about dozens of supplements, including these popular ones.

Calcium

The mineral is important for strong teeth and bones, which store more than 99 percent of the calcium in the body. As bones break down, the body pulls calcium from reserves to rebuild and remodel. (An increased intake of dietary calcium also appears to reduce PMS symptoms, but the same effect doesn't occur with increased intake through supplements.)

Dietary sources: Dairy products; leafy greens such as kale and broccoli; canned fish with bones; calcium-enriched citrus juices.

Daily dose: The daily Dietary Reference Intakes for adults 19 and older is 1,000 milligrams a day; for women after 50, that goes up to 1,200. The NIH recommends not exceeding 1,200 mg a day, and consuming more than 2,500 mg a day could lead to adverse health effects.

Dangers: Calcium can affect how the body absorbs certain antibiotics and bone-building bisphosphonate drugs, such as Boniva. Usually, taking the drugs at different times of the day will prevent the interaction.

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A Dose of Caution

Dietary supplements may share shelf space with drugs at the store, but they're not the same. Dan Fabricant, director of the Food and Drug Administration's division of dietary supplements, explains how important differences between the two affect how they're labeled, marketed and regulated. It's wise to inform your healthcare provider about supplements you're taking, because some may cause adverse reactions or side effects when combined with medications.

• **DRUGS** (pain relievers, cough syrup, antacids, etc.) can claim to treat, cure or prevent disease, and require approval from the FDA before they are available to the public.

• **DIETARY SUPPLEMENTS** (vitamins, minerals, extracts, herbs) can't legally claim to treat disease; instead, labels may describe how the ingredients normally affect the body in phrases like "calcium builds strong bones." The manufacturer is responsible for truth in labeling, and the FDA must show that a supplement is *unsafe*—not just ineffective—before the agency can restrict its use.

Consumers should be wary of what they read on supplement labels, especially if it seems too good to be true, says Fabricant, who adds that the Federal Trade Commission, not the FDA, investigates claims about misleading labels.

● Coenzyme Q10

Antioxidant coenzyme Q10 (CoQ10) is part of every cell in your body. Without it, the body can't convert carbohydrates and fats into energy that cells can use. But, as with so many other things, its quantity flags with age. The NIH considers it "possibly effective" for decreasing additional cardiac problems for heart attack patients, lowering blood pressure and slowing the decline of early Parkinson's disease.

Dietary sources: Oily fish such as salmon, mackerel, herring and tuna; liver; whole grains.

Daily dose: A balanced diet usually provides sufficient amounts; there is no recommended dietary allowance (RDA). As a supplement, intake may range from 30 to 200 milligrams per day, ideally consumed with a meal containing fat, because CoQ10 is fat-soluble. The American Heart Association cautions that larger clinical trials are needed to study the safety and effectiveness of CoQ10 supplements.

Dangers: Taking CoQ10 supplements with high blood pressure medications could cause blood pressure to drop too low. Also, it could decrease the effectiveness of anticoagulant drugs such as Coumadin.

● Fish Oil/Omega-3 Fatty Acids

The omega-3 fatty acids in fish can help healthy hearts *stay* healthy while lowering high triglycerides, a risk factor for coronary disease, by 20 to 50 percent. Omega-3s also seem to expand blood vessels, which could lead to a modest drop in high blood pressure. The NIH considers fish oil only "possibly effective" as a treatment for a host of other conditions, from rheumatoid arthritis to depression.

Dietary sources: Fatty fish such as salmon, mackerel, herring, sardines, albacore tuna or lake trout. (The American Heart Association suggests at least two servings per week; a serving is 3.5 ounces cooked or three-fourths cup flaked.)

Daily dose: Total omega-3 intake of 1 to 4 grams per day—but no more than 3 grams from capsules daily without a healthcare provider's supervision. A 3.5-ounce serving of salmon has about a gram of omega-3 fatty acids.

Dangers: Birth control pills may interfere with fish oil's triglyceride-lowering capabilities. Taking fish oil and medications to lower blood pressure may drop blood pressure dangerously low.

● Zinc

An essential trace element, the metal zinc is necessary for the body's growth and maintenance, including a strong immune system, wound healing and healthy vision.

Daily dose: RDA for adults is 8 to 11 milligrams a day.

Dietary sources: The body absorbs zinc from animal foods such as meat and poultry more readily than from plant foods, although it's found also in legumes, mushrooms, cheese, and pumpkin and sunflower seeds. A healthy diet plus a multivitamin covers most people's needs.

Dangers: Zinc might reduce the effectiveness of some antibiotics, so take them at least two hours before a zinc supplement (or four to six hours after). Calcium supplements could decrease dietary zinc absorption, while zinc in turn can affect the body's ability to absorb copper and iron.

● Iron

Iron fuels red blood cells as they course through the body, delivering oxygen to cells and returning carbon dioxide back to the lungs to be exhaled. The World Health Organization suggests that 80 percent of the world's population may be iron-deficient.

Dietary sources: Iron-rich foods include beef, lamb, chicken, pork, fish and beans.

Daily dose: The RDA to prevent iron deficiency in adults is 8 mg a day for men 19 and older, 18 mg a day for premenopausal women. More than 45 mg a day could cause adverse health effects.

Dangers: Iron is the most common cause of poisoning deaths in children, so kids younger than 18 shouldn't be given iron supplements unless under a physician's orders. Iron can also decrease the effectiveness of antibiotics, bone-strengthening bisphosphonates and other specific drugs. **V&V**

Zesty Black Bean Burgers

The vitamin folate is particularly important during pregnancy and infancy, as it helps produce and maintain new cells. It's essential to making DNA and plays a role in preventing DNA changes that may cause cancer. Plus, everyone needs folate to make red blood cells and prevent anemia. Black beans are one excellent source of folate. These folate-rich burgers will satisfy your appetite and may improve your health, too!



INGREDIENTS

1 garlic clove, minced	1/2 tsp. ground cumin
1 small onion, finely chopped	1/4 tsp. pepper
1/2 c. chopped mushrooms	3 Tbsp. low-fat mayonnaise, divided
1 jalapeño chili, cored, minced	2 medium tomatoes, thinly sliced
1 small green bell pepper, chopped	1 c. torn Romaine lettuce
1 1/2 c. cooked black beans, well drained	4 split whole-wheat buns
1/3 c. quick-cooking oats	2 Tbsp. mustard
1/4 tsp. salt	1 tsp. honey
1/2 tsp. dried oregano	Dash chipotle chili powder

Nutrition information per serving:

270 calories;
5 grams total fat;
12 grams protein;
47.5 grams carbohydrates;
540 milligrams sodium;
and 9.5 grams dietary fiber.

DIRECTIONS

1. Spray large nonstick skillet with cooking spray. Add garlic, onion, mushrooms, chili and bell pepper; cook over medium heat 7 minutes, or until tender. Place vegetables in blender. Add beans, oats, salt, oregano, cumin, pepper and 1 Tbsp. mayonnaise. Coarsely purée. Shape into 4 patties. Refrigerate on greased, wax-paper-covered plate 1 hour.
2. Spray the skillet with cooking spray. Ease in patties. Cook over medium heat 3 to 6 minutes per side, depending on thickness, or until browned; handle gently.
3. Arrange 1/4 of tomato slices and lettuce on each bun. Add patties. Combine remaining mayonnaise, mustard, honey and chili powder. Top each patty with 1/4 of sauce. Add tops of buns.

Makes 4 servings.

Note: If desired, use vegan mayonnaise.

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