

VITAMINS, SUPPLEMENTS AND NUTRACEUTICALS:

Making Them Part of Your Diet Can Be Smart for Your Health

IS FOOD A SUFFICIENT SOURCE OF NUTRIENTS TODAY?

By Gina Mazza

Fish oil. Probiotics. Psyllium. Omega-3. Folic acid. Spirulina. Whey protein. Ginko biloba. Lactoferrin. Glucosamine. It isn't your imagination that the dietary and nutritional supplements aisles at retail stores are exploding with more product offerings than ever. As consumers increasingly take their health into their own hands, companies are responding in a big way by giving us what we want. More than half of American adults take a least one dietary supplement, with multivitamins being the most common, according to a study by the Centers for Disease Control and *Prevention's* National Center for Health Statistics. But despite their popularity, many experts remain skeptical about whether or not these supplements are even necessary. Here are a handful of considerations that may help you make the best choice.

Meeting the recommended dietary guidelines can be a challenge.

The Dietary Guidelines for Americans set by the United States Department of Agriculture urges us to get our nutrients primarily from food: "Foods in nutrient-dense, mostly intact forms contain not only the essential vitamins and minerals that are often contained in nutrient supplements, but also dietary fiber, phytochemicals and other naturally occurring substances that may have positive health effects." This approach is based on the emerging understanding that our bodies may process nutrients in food differently from those found in supplement form.

In an ideal nutritional world, we wouldn't need dietary supplements. We would all eat the proper servings of fruits, vegetables, whole grains, lean meats, fish and healthy oils, and these foods would fulfill our recommended daily requirements for optimal health. In this best-possible world, our foods would

always be sourced from farms with mineral-rich soil, free of toxins and shipped fresh to our local grocery stores while still at peak nutritional density.

Yet as studies continue to show, America's eating habits are far from ideal. "We invest a lot in the science behind the Dietary Guidelines for Americans, but when you think about people and what they're eating, a significant number are not meeting those benchmarks," concludes Duffy MacKay, vice president for scientific and regulatory affairs for the Council for Responsible Nutrition, a dietary supplement trade group. And that, some nutrition experts and wellness advocates argue, is why we need more than just the food we eat. "Meeting your daily dietary needs without using supplements is a challenge, even when you're choosing ultra-healthy foods under a professional dietitian's guidance," says Andrew Weil, MD, who is renowned for establishing the field of integrative medicine, which combines conventional and alternative approaches to health. "Micronutrient deficiencies are common in our population. I am on record as saying that dietary supplements are not substitutes for good diets, but they are good insurance against gaps in the diet. I consider it another good and safe measure to optimize emotional and physical well being."

Food quality isn't what it used to be.

Some might argue that human beings have gotten their nutrition from food for centuries before supplements came on the scene, so why do we suddenly need them? In the span of just one generation, a lot has changed in the way we grow, process and sell food.

For one thing, food isn't nearly as nutritiously dense as it used to be, due in part to the poor quality of the soil it is now grown in. Nutrition has its roots in the soil, where food grows; and plants can't contain more nutrients than they can take up from the soil.

HOW ARE DIETARY SUPPLEMENTS REGULATED?

The Dietary Supplement Health and Education Act, approved by Congress in 1994, defines dietary supplements as products that:

- are intended to supplement the diet.
- contain one or more ingredients (like vitamins, herbs, amino acids or their constituents).
- are intended to be taken by mouth.
- are labeled as dietary supplements.

The Food and Drug Administration once regulated dietary supplements the same way it does foods, but that changed as of August 2007. The FDA's new good manufacturing practices ruling ensures that supplements are produced in a quality manner, do not contain contaminants or impurities and are accurately labeled.

Modern agriculture is vastly different from what it was 50 or more years ago, with enormous centralized farms growing single crops and relying on synthetic inputs for productivity. How does that affect soil health? "If you grow the same crop year after year, you can reduce the biological diversity of the soil," explains Harold van Es, PhD, a professor and the chair of the department of crop and soil sciences at Cornell University and coauthor of *Building Soils for Better Crops*. "Rotation is better than monoculture. Crops that require intensive tillage, produce compaction, and high pesticide use can decrease soil health. This is opposed to a system that includes rotation, no tillage, and adds organic materials back to the soil." Eating organic food is a partial solution, since it is usually healthier than conventionally grown food, but that's only part of the equation.

At the same time that we're getting less nutrition from our food, living in today's fast-paced society means that many of us have greater nutritional needs than our ancestors. Stressors on our health are all around us, from air pollution and toxic home cleaning chemicals to rush-hour road rage and mobile devices that don't allow us to ever truly unplug. As a result, our bodies require more nutrients to cope with and recover from this stress. Additionally, a frantic lifestyle that keeps us in "fight or flight" mode and doesn't

allow us time to slow down and properly digest our food can mean that our bodies aren't able to send nutrients into the blood stream to be properly absorbed by our cells.

And finally, yes, we can get "adequate" nutrition from food, but is it "optimal"? Many of us have been deficient in certain nutrients for so long that we have a nutrient debt, and we need quite a bit just to catch up. Adding supplements to your daily routine can compensate for this.

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Nutraceuticals offer the added bonus of prevention.

According to Dr. Weil, many people resist taking supplements because they can be expensive and a bother; but over the long term, these reasons can be detrimental and even costly to your health. With seven of the 10 chronic diseases of our era linked to poor nutrition—including heart disease, diabetes to cancer and obesity—it may be wise to consider supplements as “doses of preventative medicine.”

This is the philosophy behind the nutraceuticals industry. Nutraceuticals (a combination of “nutrition” and “pharmaceutical”) refer to extracts of foods that claimed to have a medicinal effect on human health. More rigorously, “nutraceutical” implies that the extract or food is demonstrated to have a physiological benefit or provide protection against a chronic disease.

While the USDA’s dietary guidelines point out that “sufficient evidence is not available to support a recommendation for or against the use of multivitamin and mineral supplements in the

reach \$176.7 billion this year, and \$90 billion in the United States alone by the end of 2015. This includes not just vitamins but minerals, herbs and botanicals, sports supplements, and meal replacement and weight loss products.

If you do decide to add supplements to your daily intake, the Center for Advanced Medicine advises that not all supplements are created equal—meaning, they’re not all of the same quality or equally effective: “If people want a cheap vitamin C tablet, their tablet will likely contain only ascorbic acid and not the bioflavonoids and copper that will help the vitamin C actually be utilized in the body. If you buy the cheap dollar-store calcium, it will probably be only calcium without the other minerals that make it work best in your body, and that calcium might well come from an inexpensive and indigestible source like chalk. The best supplements are those that come from food sources rather than cheap laboratory materials. They should be formulated for optimal digestion and use of the nutrients. Think about it: if you take supplements and your body can’t do anything with them, what good are they?”

How do you know what supplements to take? It depends on a number of factors: your diet, your health issues, your nutritional needs, what specific nutrients you may be deficient in and how bad the deficiency is, the quality of your food intake and you body’s ability to digest and assimilate nutrients. To begin with, taking a high-quality daily multivitamin will ensure that you get the energy you need to drive metabolism. Based on your gender, age, lifestyle, medications you may take and other

primary prevention of chronic disease,” many physicians and wellness professionals say the opposite. “Ample evidence does suggest that regular use of antioxidants, for example, reduces the risk of cancer and heart disease, retards aging, reduces oxidative damage to your cells and tissues, and protects against toxic injury,” Dr. Weil states. “Certain vitamins and minerals, when taken in higher-than-recommended doses, work as natural preventive agents.”

Again, the growth of this industry is consumer driven. Globally, nutraceutical sales are anticipated to

factors, additional supplements may be recommended. For a personalized, comprehensive recommendation, talk to a licensed nutritionist and always let your doctor and pharmacist know what supplements you may be taking. | DHL

The Hype Over Protein Powder: Do You Need It?

By Gina Mazza

Protein powder is shaking up the dietary supplement world in its own way...or should that be “whey”? With powders available in a wide variety of flavors and forms, it’s not just for bodybuilders anymore.

Every body needs protein to grow and maintain itself. In fact, next to water, it is the most plentiful substance in our bodies. Protein can be found in our muscles, organs, bones, skin, hair and nails. While adequate protein intake is important for everyone, athletes and other individuals who are active need it for muscle growth, repair and energy. For anyone starting a weight management program, protein helps to fuel your lean body mass and metabolism. The more lean muscle you have, the faster your metabolism will be and the more calories you will burn, even while your body is at rest. Food provides many sources of high quality protein, such as meat, fish, poultry, beans, peas, nuts, dairy and products, and some seeds, vegetables and grains. Still, good quality protein powders and supplements can be a convenient and tasty way to incorporate protein into your diet.

Whey Protein

At the top of the protein popularity chart is whey protein, made from cow’s milk. Whey contains approximately 50 percent of the lactose of milk, proteins, vitamins and minerals. And since whey powder is simply dried whey, it is a low-fat, low-lactose protein supplement that is highly concentrated.

Why is whey desirable for one’s health? It has the ability to function as an antioxidant, anti-tumor, antiviral and antibacterial agent, as well as an excellent source of dietary protein. While research continues to be done, other health benefits of whey powder include increased lean muscle mass, increased fat burning, detoxification properties, blood pressure management and cholesterol control. Whey protein is best used before or immediately after a workout.

Go Your Own Whey

Whey has been used in traditional cuisine for centuries, and was known by ancient Greek doctors as “healing water” for its strength-building properties. Today, however, whey is considered a waste product of the cheese and yogurt industries. Supplement companies try to “purify” their products by isolating different parts of the protein portion of the whey, which is why there are so many different formulations on the market such as isolates, hydrosylates, concentrates, etc. When made properly in small batches from cultured dairy, whey is rich with biologically active proteins and has a high concentration of essential amino acids. Here’s a simple recipe.

- 2 cups yogurt or kefir
- 1 large glass bowl
- 1 strainer
- 1 thin, clean dishtowel or unbleached cheesecloth
- 1 wooden spoon
- 1 pitcher

Casein Protein

Casein protein, also from cow’s milk, contains all of the essential amino acids, plus calcium and phosphorus. Compared to other sources of protein, casein increases blood amino acids at a much slower and steadier rate. For this reason, it is best consumed between meals or before sleeping to provide a steadier supply of muscle fuel.

Soy and Egg Protein

Soy protein is derived from soybeans and has all the essential amino acids, as well as isoflavones, arginine and glutamine. It has been shown to help build muscle mass and maintain lean body mass. Egg protein’s advantage is that it’s highly digestible and absorbable in the body. It is high in amino acids but low in fat, cholesterol and carbohydrates, so it’s a good choice for those looking to lose weight. Egg white protein is perfect for anyone who needs a lactose- and dairy-free supplement.

Go Local

Pittsburgh-based SDC Nutrition has a noteworthy line of products, called About Time, that are made from 100% whey protein isolate. Founded in 2008 by fitness professional Sean Marszalek and food science expert Devenee Schumacher, they set out to produce a protein supplement without artificial ingredients and sweeteners, and inferior protein concentrates. Their products are safe for individuals with diabetes. Check out this Burgh-based line at TryAboutTime.com or look for it on the shelves of GNC and other nutrition outlets. | DHL

Line a large strainer with an unbleached cheesecloth and set strainer in large bowl. Pour yogurt or kefir into the cloth, cover and allow to sit out at room temperature for several hours. The liquid whey will begin to drip into the bowl, while the milk solids will stay collected in the cloth.

When the dripping slows, tie up the cloth into a sac with the milk solids inside. Do not squeeze the curds to get the remaining liquid out. Instead, tie the cloth to a wooden spoon, placing it over a pitcher so that the sac containing the milk solids is suspended inside. Allow this to hang for an additional several hours or overnight. Then pour the liquid whey from the large bowl or pitcher into a small glass jar for storage. It will last six months refrigerated. The curds left in the strainer are a tasty cream cheese rich with healthy fats that can be used as a nutrient dense spread or dip.