SUPPLEMENTS AND SNAKE OIL

Sports-nutrition experts share their thoughts on performance supplements for CrossFit athletes.

BY HILARY ACHAUER
A wall of nutritional supplements can be incredibly seductive. The little jars with multisyllabic, unpronounceable technical names that often combine letters and numbers: CoQ10, L-car- nitine L-tartrate, methylsulfonylmethane. The pictures of molecules and all the trappings of science. The cartoon-sized tube of protein powder and the aggressive packaging. The tanned, rippling, bulging models. The delicious pictures of guilt-free “healthy” cookies and candy bars. The promise of massive gains.

The nutritional-supplement industry—which includes vitamins, minerals and supplements—produced US$32 billion in revenue in 2012. According to the Nutritional Business Journal, that figure is expected to double by 2021. Everyone wants an edge, something a little extra. If you train hard, sleep well and eat right, why shouldn’t you also take supplements? The problem is many of the claims made about supplements are not supported by science, and we don’t yet understand how our bodies interact with all the nutrients in whole foods.

“Such a highly processed food,” she said about protein powder. “The same people that go to great extremes to shop at Whole Foods and buy all this organic stuff, nothing with additives or preservatives … either it’s all a scam and they are all bad or you’ve never seen a supplement you don’t like,” he said.

“Which is to say very interesting and promising, but do you really want to get on the table yet?” Pollan asked.

Fitzgerald confirmed the confusion and uncertainty in the industry regarding supplements. “If you ask 25 different sports dietitians (about supplements) you will get 25 different answers,” she said, “but given that my professors at Columbia University (had us) read the ‘Farmer’s Almanac’ as part of our master’s degree, I will always choose whole foods first.”

Supervised by Science or Salespeople? In 2008, Michael Pollan—author, activist, journalist and professor of journalism at the University of California, Berkeley—compared the state of nutrition science to surgery in the year 1650.

The most recent information from the Office of Disease Prevention and Health Promotion recommends 5.5 ounces of protein for a person following a 2,000-calorie-per-day diet (one ounce of meat contains about 7 grams of protein, so 5.5 ounces equates to about 38.5 grams of protein per day). The nutritional-supplement industry—which includes vitamins, minerals and supplements—produced US$32 billion in revenue in 2012. According to the Nutritional Business Journal, that figure is expected to double by 2021.

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“Is there anything wrong with that?” Matt Fitzgerald, an endurance-sports coach, nutritionist and author of several books about diet and nutrition, said ingesting protein powder immediately after training does have a few advantages: It’s a fast and efficient protein source that has been shown to accelerate the recovery process and potentially enhance adaptation to training.

However, protein powder has some disadvantages, Fitzgerald said. First, he said protein powders aren’t necessarily more effective than natural protein sources for recovery and training adaptation. The benefits you are really looking for with protein powder, there is no evidence you can’t also get (those benefits) from regular food, and of course (protein powder) is not as economical as real-food protein sources,” Fitzgerald said. He also said many people are consuming much more protein than they need. The recommendations on protein intake vary depending whom you ask. The amount of protein you need increases with habitual exercise: “Protein requirements increase with habitual exercise: “Protein is not supported by science, and we don’t yet understand how our bodies interact with all the nutrients in whole foods.

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Fitzgerald said you don’t need huge amounts of protein. “Once you’ve completed that process, one of the adaptations you’ve made is that your body retains protein, specifically nitrogen, better so that you just don’t need to worry about (additional) protein anymore at that point,” Fitzgerald said.

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Fitzgerald said he evaluates supplements on a case-by-case basis, and he distinguishes between supplements for general health and ergogenic supplements (supplements for performance). “There are people who have an ideological stance on supplements … either it’s all a scam and they are all bad or you’ve never seen a supplement you don’t like,” he said.

For proof, you need only question the efficacy of a supplement near someone who swears by the product. The debate is often incredibly heated and full of anecdotal evidence, with hard science conspicuously absent.

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“For the CrossFit type who are doing high-intensity type of training, it would be creatine and possibly also beta-alanine. Those would be the only two where I would say the evidence clearly indicates it’s worth your hard-earned money,” he said. Fitzgerald explained that creatine enhances muscular adaptation to resistance training.

“So if you are doing multiple sets of some type of weightlifting movement, thanks to creatine you will be better in the third and fourth set than you would without it,” he said. However, not everyone responds to creatine, and creatine also causes your cells to retain water, which can lead to weight gain.

Beta-alanine is the other supplement Fitzgerald said is backed up by sound science. It’s an amino acid that has been shown to enhance performance in high-intensity efforts such as intervals.

“If you have someone like a swimmer who swims a 400-meter freestyle, an event that lasts a couple/few minutes but not longer, you would get a better performance when you supplement with beta-alanine,” Fitzgerald said. The possible side effects of beta-alanine are temporary paresthesia—a sensation of tingling, pricking or burning on the skin.

Clark agrees with Fitzgerald that good science supports creatine and beta-alanine.

“In some people, creatine is a viable supplement,” Clark said. “Some people respond more than others, as with any supplement of that type. It helps with recovery so that you can do more reps, and that can help you build more muscle. Creatine doesn’t build muscle but it allows you to exercise, and (exercise) builds the muscle.”

Clark also said good research supports the claim that beta-alanine helps with short bursts of exercise. She cautions that teenage athletes should not take any of these supplements because safety has not been established for children. Like Fitzgerald, Clark said most supplements should be evaluated on a case-by-case basis.

Trust Your Body

The science on nutritional supplements is murky, and companies who stand to profit handsomely from the sale of these products make most of the health and performance claims. For example, consider how the questionable claims of the beverage industry were roundly rebutted by actual research by independent scientists.

Not all supplements are worthless, but Clark made a point that might be interesting to athletes who are considering adding supplements into their regimen.

“Don’t you really want to know what your body can just do?” she asked. “There are plusses and minuses to everything, but psychologically … if you start taking creatine, do you always have to take creatine for the rest of your life? Is that what you really want to do?”

Ultimately, in her mind, it comes down to this question: “Do you trust your body to be good enough?”

ABOUT THE AUTHOR: Hilary Achauer is a freelance writer and editor specializing in health and wellness content. In addition to writing articles, online content, blogs and newsletters, Hilary writes for the CrossFit Journal. To contact her, visit hilaryachauer.com.