

Can creatine supplements help older adults' muscles? Here's what to know.

When paired with resistance training, creatine supplements may improve strength and physical function in older adults, experts say.

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By [Teddy Amenabar](#)

For years, studies have shown that creatine supplements can help younger athletes build stronger muscles. Now, scientists are asking whether older adults at risk of age-related muscle loss could benefit from the supplement as well.

A growing number of studies suggest creatine may augment the benefits of resistance training and provide healthy older adults a small but significant increase in muscle mass and strength. The combination can help older adults improve in markers of functional health, such as standing up from a chair and walking faster, said [Phil Chilibeck](#), a professor of kinesiology at the University of Saskatchewan.

“Creatine can help out,” Chilibeck said. “But it’s going to add a small benefit compared to what you can get with a good resistance training program by itself.”

Creatine with strength training may help older adults who could use a bit more muscle mass, Chilibeck said.

“If you’re going to be spending your money on a nutritional supplement, I think it’s the one to choose,” he added.

Studies of creatine for older adults are small, and some of the researchers conducting the studies are advisers for creatine companies.

What are creatine’s benefits?

Creatine is best known for its ability to help someone power through intense exercise. It allows a person to do a few more reps of a bench press or finish a race a little faster, said [Abbie Smith-Ryan](#), a professor of exercise physiology at University of North Carolina.

“People think it’s a scary, meathead bodybuilding supplement,” said Smith-Ryan, who’s also a scientific adviser for a creatine company. “I would send it to my 95-year-old grandmother and tell her to put it in her yogurt.”

We produce one to two grams of creatine a day in our liver and kidneys, Chilibeck said. And we can get creatine from meat and fish in our diet. But it’s “really difficult” to eat the amount of creatine found in a supplement, he said, adding that you’d need to eat around 3½ pounds of meat or fish to get five grams of creatine, he said.

Chilibeck said he does not receive funding from the creatine supplement industry.

Some of the latest creatine research focuses on whether the [supplement](#) can amplify the benefits of resistance training for [older adults](#).

Chilibeck is a co-author of a [meta-analysis](#) of 20 randomized controlled trials that found adults ages 48 to 84 who took creatine and lifted weights two to three times a week gained lean mass and strength, as compared with those who took a placebo and did the same strength-training programs.

Exercise enhances the uptake of creatine from the supplements into muscles, which is where most of the body’s creatine is stored, Chilibeck said. But healthy older people are less responsive to creatine supplementation and may benefit from a higher dose, he said.

When older adults take creatine without resistance training, the supplement doesn’t appear to have the same benefits. A two-year [study](#) of 200 older women in Brazil found creatine had no effect on lean mass or muscular function when taken without resistance training.

“Certainly, if you’re not doing any resistance training, I wouldn’t bother taking creatine,” said [Shivani Sahni](#), an associate professor of medicine at Harvard Medical School and an associate scientist at the Hinda and Arthur Marcus Institute for Aging Research at Hebrew SeniorLife. Sahni said we need studies with more participants and more research on older women and adults who are already frail.

What else should I know about creatine?

A byproduct of creatine — creatinine — is used as a marker to estimate kidney function. Creatine supplements, as well as greater muscle mass or a protein-rich diet, can increase creatinine levels in the blood, said [Kirk Campbell](#), president of the National Kidney Foundation and the chief of the renal division at the University of Pennsylvania Perelman School of Medicine.

He recommends people tell their doctor if they’re taking creatine supplements, especially if they have kidney issues.

Not everyone responds to creatine supplementation, said [Brad Schoenfeld](#), a professor in the exercise science program at Lehman College. Some people are genetically predisposed to be “nonresponders,” and others already eat enough creatine.

“If your creatine stores are already full from your diet, taking extra creatine isn’t going to make any difference,” Schoenfeld said. Vegans tend to benefit the most from creatine supplements because they don’t consume meat or fish, he said.

There’s early research to suggest supplemental creatine may have cognitive health benefits. But “this work is still very preliminary,” Chilibeck said.

The brain already uses creatine for its “great energy demands,” and supplemental creatine could add to the energy reserve, said Eric Rawson, chair of the Department of Health, Nutrition and Exercise Science at Messiah University, who’s an adviser for a company that manufactures creatine.

Creatine “comes to the rescue” when the brain is stressed — when a person is sleep deprived or jet-lagged, said Darren Candow, a professor of exercise physiology, nutrition and aging at the University of Regina, who’s also an adviser for two creatine companies.

“It’s not a miracle,” Candow said. But, “it can provide some benefits.”

What types of creatine are recommended?

Creatine monohydrate is the most studied version of the supplement, Smith-Ryan said.

For those interested, start with around five grams of creatine per day, experts said. Loading with higher doses of creatine to saturate the muscles at the beginning isn’t necessary and can cause bloating, Candow said.

Look for creatine products that have been “certified safe for sport,” or third-party tested, to ensure it contains what’s listed on the label, Chilibeck said. The Food and Drug Administration doesn’t test creatine or other supplements before they are sold.