Creatine supplements: What the research says about how they can help you get in shape

January 18 2023, by Justin Roberts and Henry Chung

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Creatine is one of the most popular nutritional supplements, widely used by bodybuilders and athletes alike. Many claim that they feel better after they include it in their diets, and believe it helps them get fit and build

muscle.

While some feel these supplements may be controversial, there's quite a lot of scientific evidence behind taking creatine, especially for exercise. Studies suggest creatine can help boost your performance during workouts, which, in turn, may help you get in shape.

Creatine is a natural substance produced by the body. It's also found in foods such as red meat and seafood. Creatine also plays an essential role in cell regulation and helps rapidly regenerate adenosine triphosphate (ATP), an organic compound in our bodies that gives cells the energy they need to function.

In humans, most of our body's creatine (around 95%) is stored in our muscles. As such, it helps give our muscles on-demand energy when needed.

The more creatine stored in our muscles, the more energy we can draw on when exercising. This may explain why taking creatine supplements may translate into better-quality workouts with less fatigue.

But although creatine may aid your workouts and energy available for the working muscles, it will not suddenly make you fitter, especially if you already have naturally high stores of it to begin with.

That said, a wealth of research indicates that taking creatine alongside exercise can benefit your training). In some cases, it can improve the amount of weight you're able to lift by up to 32% and increase muscle mass by 7.2%, particularly in the upper body, when compared with those who don't take creatine. More recently, there's evidence that water uptake into cells as a result of creatine supplementation may trigger genes associated with muscle growth, leading to greater lean muscle gains.

While largely contested, a few studies have also shown creatine can modestly reduce overall body fat especially when taken immediately before and after exercise. There is also evidence suggesting creatine can support recovery from exercise, especially if consumed with a protein drink, and help with injury prevention.

But it's not just about physical gains. Around 5% of the body's creatine is stored in other tissues including our brain. Taking creatine has been shown to significantly improve cognitive function and decision-making, particularly in vegetarians. Around 8 grams of creatine taken daily for five days has been shown to reduce mental fatigue associated with task repetition, and higher doses (20 grams) may improve brain-muscle-related fatigue. This further highlights that creatine could be beneficial to enhancing the quality of your workouts.

How much to take?

The average adult needs around 1-3 grams per day of stored creatine to support the body's normal functions. People who exercise, however, may need to consume between 5-10 grams daily to maintain body stores.

However, research has shown that consuming 20 grams of creatine daily for about a week may actually be optimal to start with, as this boosts the amount of creatine stored in your body by around 26%. It can be boosted by even more if consumed alongside regular resistance training. Beyond this, creatine stores can be maintained at lower doses of 3-5 grams per day, sustaining creatine availability.

Although you could probably consume enough creatine as part of your diet by eating high amounts of animal and dairy proteins, you would have to consume a lot to boost creatine stores (for example, a 1kg steak could provide five grams of creatine). This is where creatine supplementation may be more practical.

Creatine remains one of the most tested nutritional supplements and is generally considered safe and well-tolerated. Even those taking up to 30 grams per day for five years exhibited no harmful effects.

But be aware, supplements can still cause some minor side-effects, such as nausea, cramping and bloating—particularly during the initial phases. Be sure to consult your GP before taking creatine just to be sure it's safe for you.

The catch

While creatine may have many benefits, it may not work for everyone—especially people who already have high levels of stored creatine in their muscles, such as trained athletes or people who regularly eat a high-protein diet. But people new to exercise, or those who eat a low-protein or plant-based diet, may benefit from consuming more creatine daily, to improve the quality of their workouts.

However, there's still a lot we don't know about creatine, especially considering the most studies have been conducted using healthy male participants. A review from 2021, however, suggests that creatine may be just as effective or even more so for women—and may also support their bone health, mood and cognitive function when combined with resistance exercise.

The evidence appears to stack up in favor of creatine for training, especially those starting a new program. But while this supplement may help with quick bursts of energy and may help get you through your workout, don't expect it to be a quick fix for getting in shape.

Provided by The Conversation