

# Should You Take Creatine?

**C**reatine continues to be one of the most popular supplements for exercise enthusiasts. How do you know whether or not it could benefit you?

The first step toward making an informed choice is to find out as much as you can about a product. Research on creatine is far from complete, but scientific evidence on using it keeps growing. To gain a better perspective on creatine use, leading exercise physiology experts William J. Kraemer, PhD, and Jeff Volek, MS, RD, of Ball State University in Muncie, Indiana, provide answers to the following common questions.

## What is creatine?

Creatine is an energy-producing substance naturally manufactured by the liver, pancreas and kidney from amino acids. Creatine is also obtained through food sources, primarily meats and fish.

## What is the function of creatine in the muscle?

Creatine combines with inorganic phosphate to form the compound phosphocreatine, which helps promote production of ATP (adenosine triphosphate), the body's energy compound. Phosphocreatine rapidly makes more energy available as the body's demands become more extreme, such as during short-term, intense exercise like weight training or plyometrics. Creatine in the muscle is broken down and lost at a rate of about 2 grams (g) per day.

## Does creatine supplementation work?

Research has demonstrated that creatine in muscle can be significantly and rapidly increased through creatine monohydrate supplementation. (It is unknown whether other forms such as creatine citrate or creatine phosphate offer the same benefits as creatine monohydrate.)

Creatine accumulation in muscle varies widely and depends on the amount of phosphocreatine an individual has prior to supplementation. Interestingly, study participants with lower baseline creatine levels have exhibited the greatest increase in creatine accumulation. Because research also indicates that aging may be associated with lower phosphocreatine concentrations, supplementation may have a greater impact on middle-age individuals than on younger people.

## What are the benefits of creatine supplementation?

Some studies have shown that creatine supplementation significantly enhances the ability to maintain muscular force and power output during exhaustive bouts of cycling, running, repeated jumping, swimming, kayaking/rowing and weight lifting. Improvements in bench press strength and 40-yard dash times have been documented, as have significant increases in fat-free mass. Creatine does not appear to enhance aerobic-oriented activities, though it may positively affect short-term anaerobic bouts interspersed with endurance exercise.

## How much creatine should be taken?

As with any decision regarding ergogenic aids, individuals considering creatine supplementation should consult first with their physician. "Loading" is important to bring creatine levels up to capacity and then maintain them in the muscle at an optimum. Research thus far has indicated that a safe course for someone weighing between 150 and 183 pounds is to take about 20 to 25 g of creatine daily during the initial five-to seven-day loading phase, followed by 3 to 5 g daily to maintain creatine stores.

## How safe is creatine?

Individuals who use creatine supplements must carefully watch their intake and not consume excessive amounts. Though acute creatine supplementation has been shown to be medically safe in healthy people, long-term effects remain unknown. Presently, there is no reason to believe creatine supplementation in healthy adults poses any threat to normal physiological functioning. As always, consult your doctor if you have additional questions.

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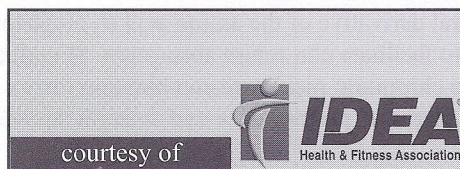
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