Creatine

What is creatine?

Creatine monohydrate is a dietary supplement used for increasing muscle mass and improving performance in short-duration, high-intensity exercise. It is popular with athletes, weight lifters, and body builders, and has been in use for the past 10 to 15 years.

The long-terms risks of using creatine are not known. Its use is not banned by the International Olympic Committee or other sports regulatory organizations.

Creatine is similar to an amino acid. It is made naturally in your liver and then stored in your muscles. In your diet it is found in red meat. As a supplement it is usually sold in powder or tablet form.

How does it work?

When muscles contract they use a substance called adenosine triphosphate (ATP), which is broken down into adenosine diphosphate (ADP). Creatine helps turn ADP back into ATP for the working muscles, giving them a greater energy source for short bursts of exercise such as sprinting. Creatine has been shown to be especially effective in performance of repeated bursts of exercise because it enhances recovery.

Studies show that creatine increases the amount of water stored in muscle and increases muscle volume. Almost all studies have been done in men.

Most athletes taking creatine will gain between 2 and 10 pounds over 4 to 10 weeks. Creatine makes athletes bigger but not more skillful or agile. Between 20% and 30% of people don't benefit from creatine, and nobody knows why. Athletes who compete in sports dependent on weight, power, and short bursts of intense activity (football, basketball) may benefit from creatine, while those in sports such as long-distance running may not. Most studies have shown no improvement in swimming or cycling performance.

How do I take it?

Some people recommend taking a loading dose for 5 days before starting creatine. This dose is 20 to 25 grams per day. During this phase, it is important to eat lots of carbohydrates because this will help bring the creatine into your muscles and reduce its excretion into the urine. Creatine loading should be done in the preseason or several weeks before an important athletic event.

The maintenance dose of creatine is 2 to 5 grams a day. Most sports medicine experts believe you should stop taking it after 2 months. For most people, there is no increased benefit after 2 months, and the weight and performance benefits gained can usually be maintained through training. Many people take multiple cycles of it, taking it for 2 months, going off it for several months, and then going back on it again. Nobody knows how long it is safe to take it.

What are the side effects and risks?

The side effects of short-term use are minimal. Some people may have stomach upset or muscle cramping. To avoid dehydration and possible muscle cramping, drink lots of fluids while you are taking creatine.

The risks of long-term use of creatine are not known, but some health care providers believe that it could lead to kidney damage.