

# Creatine supplements

Some athletes think that "winning is everything," and take large doses of nutritional supplements to get an edge over their opponents. Creatine is the most popular sports supplement and many athletes, including some children and adolescents, take creatine supplements to try to increase strength and improve sports performance.

## Unknown health risks

- Doctors are still studying the benefits and risks of using creatine supplements. They don't know the long-term health effects, especially in bodies that are still growing.
- Because of unknown health risks, children and adolescents under age 18 and women who are pregnant or nursing should never take creatine supplements.

People with kidney problems should also not take creatine supplements. No matter what your age or health condition, always see your doctor for advice before taking creatine supplements.

## Easy to get, widespread use

Creatine supplements come in a wide variety of brand names and products and are available over-the-counter at vitamin, drug and grocery stores and on the Internet. Use of creatine supplements is widespread and expected to rise. Most of the people who use them are:

- Male, although some are female.
- In power sports (i.e., football, wrestling, hockey and bodybuilding), although some are in every sport.
- At all levels of performance – from professional to amateur, college, high school and middle school. A recent study of middle and high school students aged 10-18 by the American Academy of Pediatrics found creatine use in all grades 6-12. About 5.6 percent of all study participants and 44 percent of athletes who are seniors in high school admitted taking creatine. Another study by the Blue Cross and Blue Shield Association found an estimated one million young people aged 12-17 have taken performance-enhancing sports supplements. Use of supplements was reported by 5 percent of participants.

## About creatine and creatine supplements

Creatine is a source of energy for muscle contraction. The body produces its own creatine in the liver, kidneys and pancreas. You also get it in your diet when you eat meat or fish. (Vegetarians may have less creatine.) The body stores most of the creatine in skeletal muscle to use when you exercise. The rest goes in the heart, brain and other tissues.

Although people respond differently, taking creatine supplements may increase the amount of creatine in muscles.

- Muscles may be able to generate more energy or generate energy at a faster rate.
- Some people think taking creatine supplements along with training may improve performance for quick bursts of intense energy, such as sprinting and weightlifting.

Vegetarians and other people with lower amounts of natural creatine may see more of a difference from taking creatine supplements. There may be a "saturation point" that limits how much creatine muscles can store.

### **Supplements not always safe**

Although creatine is a "natural" product, it is not always safe to take creatine supplements.

- The U.S. Food and Drug Administration (FDA) does not regulate nutritional supplements. This means creatine products vary in amount and quality, and there is no guarantee of safety or purity.
- According to a recent Mayo Clinic study, many young athletes who take creatine supplements rely upon the advice of friends, not doctors. Some do not know how much creatine they are taking and may take more than they should.

### **Side effects**

People who take creatine supplements may gain weight caused by muscles holding water. Other side effects of long-term use include muscle cramps, dehydration, diarrhea, nausea and seizures. It may be dangerous to take creatine supplements while undergoing dehydration (i.e., for wrestling competition) or if you are trying to lose weight.

- No one knows what may happen to important organ systems like the heart, brain, kidneys, liver and reproductive organs if you take creatine supplements.
- No one knows what may happen if you combine creatine supplements with over-the-counter medications, prescription drugs, vitamins, etc.

Medical researchers are studying the safety and effectiveness of creatine supplements. They also are studying if creatine supplements may help to treat diseases that cause muscles to shrink and fail, such as heart failure/disease, muscular/neuromuscular diseases, and stroke.

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