

## **Creatine: The good, the bad and the ugly.**

In the last 10 years, one of the most discussed legal supplements has been creatine. It seems that most athletes have talked about or taken the supplement creatine. There is nothing mysterious about this supplement. Creatine was discovered by a French scientist who isolated creatine in meat extracts. It is made up of three naturally occurring amino acids and is produced by your liver, pancreas and kidneys. Creatine works by increasing the energy source used by muscles called ATP. It is not an anabolic steroid and doesn't affect hormone levels in the body. The most common and effective form, creatine monohydrate, has been shown to be safe for both male and female athletes.

### **The Good**

Many studies have shown creatine to have a positive influence on athletic performance. Creatine supplementation increases strength, power and total work with a greater effect in trained versus untrained individuals. Creatine supplementation will moderately increase time to exhaustion in trained individuals, but will not do the same in untrained individuals. Creatine also caused a small but statistically significant improvement in blood lactate metabolism in trained subjects only. Creatine appears to work better for some athletes than others. Persons with lower levels of creatine such as vegetarians tend to have a greater benefit than people with higher amounts of creatine such as women and athletes with a high percentage of fast twitch muscle. Creatine is not effective for endurance training and low intensity activity.

Currently, no optimal dosing has yet been defined. My recommendation for athletes is to start slow when beginning to supplement with creatine. For long term training, I recommend 5 grams of creatine per day taken with fruit juice. Athletes should take creatine in 3 month cycles followed by 1 month off. Anecdotal reports show that a one to two week taper rather than suddenly stopping may prevent muscle tightness following the end of a cycle. It is strongly recommended that athletes keep a creatine diary, including their daily intake, training schedule, problems they encounter as well as their improvements during the time they use creatine. This information will enable the development of optimal individualized schedules.

### **The Bad**

Like any supplement, creatine is not without a few side effects. One minor side effect includes gastrointestinal upset (upset stomach), especially when first taking creatine. The incidence is low and similar problems have been reported in placebo groups. By far, the most common complaint with creatine use are the reported incidence of muscle tightness, muscle cramping and muscle strains. This muscular side effects have be attributed to acute dehydration or increased sodium and calcium uptake into the muscle cells which allows for a stronger muscle contraction than normal. Because of this, it is important that an athlete taking creatine increase his or her water intake while supplementing with creatine.

### **The Ugly**

There really is no ugly side to creatine...yet. Like any new drug or supplement, the long time effects are unknown. Some researchers have speculated that excessive creatine use may put strain on the kidneys and liver but there has not been any evidence of this to date. Coaches, athletes and healthcare professionals all want to know the truth about creatine, including its safety, how it works and how to properly take it. Care must be taken to separate hype from supplement companies and fitness magazines from the scientific truth. In the meantime, we urgently await future research and additional information on this interesting supplement.

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