

Get the Facts: Creatine

Myth:

You need to take creatine to get big, or, creatine is like steroids and will make you big.

Fact:

Creatine is one of the most popular supplements among gym bros. If you ask most people why they have creatine as a part of their supplementation regimen, you will hear some vague answers such as “it helps with gains” or “it increases strength.” To date, there has been no conclusive evidence that this is the case. In fact, many of the supplements that people swear by are not truly evidence based; only anecdotal evidence exists. These mystical supplements include creatine, glutamine, zinc, testosterone boosters, and (to a lesser extent) BCAAs. Here, I will break down what we do know about the more popular supplement, creatine.

First, what is creatine? Creatine Phosphokinase (CPK) is an enzyme in muscles. This enzyme holds onto a phosphate molecule (P) and when ATP (our source of energy) loses a P during muscle contraction, CPK donates its extra P to “recharge” ATP rather than having to spend time creating a whole new ATP molecule. So essentially, CPK is a battery pack able to quickly recharge our fuel storages. It is known that doses of 3g/day for 30 days causes an increase in the creatine in the muscles. However, we don’t know if this converts to CPK or if it functions like CPK at all.

Three studies in particular looked at the effects of creatine on cardio, strength, and muscle performance, none of which found significant results. There was some evidence that creatine helped people perform a cardio task longer, but there were a lot of other confounding variables at play. There was an article which found that creatine increased DHT (a potent form of testosterone) in a dose dependent fashion without effecting testosterone. Interestingly, there has been no observed change in body composition (muscle mass or fat mass) with the increased amount of DHT from creatine. However, it is known that DHT contributes to male pattern baldness and prostatic hypertrophy, so creatine may make your prostate grow but not your muscles.

Get the Facts Continued

I know this article is getting a little bogged down in primary literature, but there is such limited information on this topic. And I doubt most of the typical gym goers who support creatine use are digging into PubMed to back their claims. Too often do supplement manufacturers misinterpret research for their own gain causing misinformation to spread rapidly. Another great example is with the amino acid, glutamine. A few articles investigated glutamines potential for reducing oxidative stress in the bedridden, decreasing the rate of tissue breakdown in ICU patients. This was taken as “glutamine prevents muscle breakdown.” However, the efficacy of use in the ICU setting (the actual research conducted) is still not well defined.

Conclusion

Many supplements you may see in a typical gym bro’s bag have little to no evidence supporting their effectiveness. In addition, they are relatively expensive and may cause harm in high or prolonged doses. The only supplement with definitive evidence of effectiveness is protein powder (which is really just a food rather than a supplement). When thinking about what you need to make the most of your workouts, research what it is you’re buying. A good rule of thumb is if you can’t find anything other than ads, it probably isn’t worth the investment.

References:

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