

# ATHLETIC BENEFITS OF CREATINE

## WHAT IS CREATINE?

While we know creatine to be an athletic, performance enhancing supplement, biochemically, creatine is an amino acid. Creatine is a non-essential amino acid, meaning that the body produces it on its own. However, adding supplemental creatine in the diet has shown to be highly effective for increasing strength and power in sport. Because the body can quickly turn creatine into ATP (aka, energy), athletes take creatine in order to utilize fast and short bursts of energy during workouts.

The science is simple: the more creatine that you consume, the more creatine that is stored in your muscles. Likewise, the more creatine stored in your muscles, the longer that you can perform max effort during workouts.



## SOURCES & FORMS

Creatine can be consumed in the diet through supplemental forms, as well as in animal protein such as red meat or fish. There are various forms of creatine. Creatine Monohydrate is most common, found in supplemental and meat products. Anhydrous creatine is a supplemental form produced when a water molecule is removed. Finally, micronized creatine is a supplemental form that has increased water solubility. Creatine is modified in different forms in order to alter dehydrating and absorptive effects. However, research has shown that creatine monohydrate is the most effective form compared to the others.

## DOSING & TIMING

Those beginning to take creatine should dose 20g/d for 5-6 days then lower the dosage to 3-5g daily. Evidence for creatine dosing time shows that athletes benefit most when creatine dosage is split and taken directly before and after workouts. This regime may increase lean muscle mass and increase blood flow during and post workout. Studies show that a 1-3 % weight gain initially is likely, which is due to water retention. Creatine naturally retains water when introduced into the body, but finds homeostasis over time.

## BIBLIOGRAPHY

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## WHO CAN BENEFIT?

Those who train hypertrophy and strength based training can benefit from implementing creatine into their diet. Creatine has been shown to optimize stamina and therefore muscle growth specific to workouts which require anaerobic training (short bursts, sprints, and power).

## SAFETY CONCERNS

While creatine supplementation is generally a safe supplement, overuse can cause digestive issues. Especially with larger doses at the beginning creatine can cause dehydration and an upset stomach. It is important to hydrate extra while taking creatine as well as eat regular meals.