

# BLOG.SQD

## What is Creatine?

Creatine is a nitrogenous organic acid produced in the liver that helps supply energy to cells all over the body and is made out of three amino acids: L-arginine, glycine, and L-methionine. As well as being produced naturally by the body, creatine can be obtained from the diet from foods such as meat and fish. However, consumption of meat and fish would have to be extremely high to produce a performance enhancing effect.

Because of creatine's ability to supply energy where it is demanded, the chemical is mainly used by athletes to increase their ability to produce energy rapidly, improving athletic performance and allowing them to train harder. As such, creatine is very popular amongst athletes who compete in explosive sports and activities like weight lifting.

The body has three energy systems it relies on to produce energy:

1. ATP-CP (also referred to as ATP-PC) energy system.
2. Anaerobic Glycolysis
3. Aerobic Glycolysis

The CP in energy system one, stands for creatine phosphate (or phosphocreatine). ATP is the body's immediate source of energy. As the body exercises, ATP levels reduce. Creatine is needed to help resynthesise ATP which, in turn, provides the body with more high intensity energy. If creatine levels run out, the ATP-CP system cannot be resynthesised and the body has no high intensity energy. As a result, high intensity performance drops as your body has to switch to another energy system that can not produce as much energy as readily.

Creatine is stored in the muscle, with the average 80kg man storing between 100g-120g. However, muscles have the capacity to store more creatine – anywhere in the region of 150-160g. The aim of creatine supplementation is to fill up the creatine 'fuel tank' which provides the body with more high intensity energy. This increase in energy can lead to greater training adaptations as the body is able to perform more work, and create a greater stimulus for growth. The amount of creatine in the muscle is a limiting factor for high intensity exercise, so increasing these levels has shown to develop real performance benefits.

## What is the most popular form of creatine and how should I take it?

Several different types of creatine exist, but they all effectively do the same thing, which is to resynthesise ATP levels. The main difference is how the creatine molecules are bonded, which impacts how they are metabolised and broken down in the body. The most popular form of creatine is creatine monohydrate and if you are thinking about using creatine for the first time, creatine monohydrate is recommended.

In order to increase muscle creatine levels, creatine should be taken consistently. There are typically two phases to creatine supplementation: loading and maintenance.

The loading phase involves taking approximately 20g of creatine per day (4 servings x 5g) for 5-7 days. The primary objective of the loading phase is to increase muscle creatine levels quickly.

Once the loading phase is complete, maintaining creatine levels with a daily dose of 3-5g is normally sufficient.

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