

Creatine Effects on Older Adults

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ABSTRACT

Diet and nutrition will affect one's cognitive ability and muscle function as far as how well they will perform exercise and maintain quality of life as age increases. Many older adults tend to accept that their bodies will begin to stop functioning properly and not do the bare minimum to prolong this from happening. In most cases, adults that have minor issues with their health often turn to prescription medication before attempting to resolve the issue with non-pharmacological interventions. There are also numerous misconceptions about dietary supplements such as vitamins, protein, and creatine. Adults must be educated about supplements that will help their bodies function as they get older. Creatine is said to help not only muscle function, but also cognitive ability in older adults.

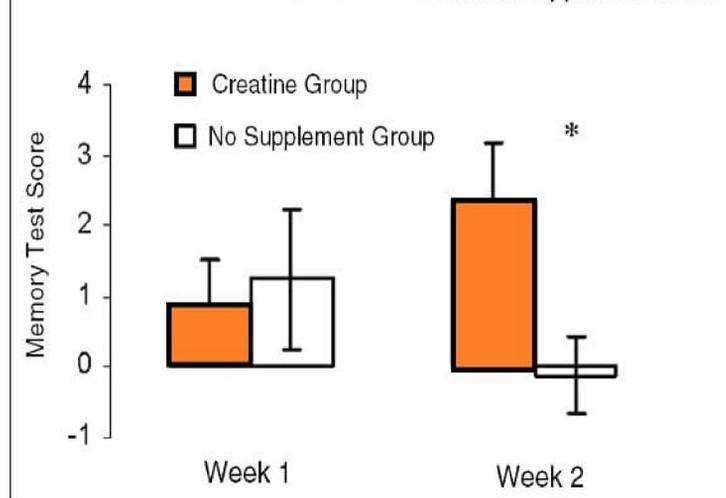
WHAT IS CREATINE?

- Creatine is a substance that is found naturally in muscle cells. This helps your muscles produce energy during heavy lifting or high-intensity exercise.
- Taking creatine as a supplement is very popular among athletes and bodybuilders in order to gain muscle, enhance strength and improve exercise performance
- It shares many similarities with amino acids. Your body can produce it from the amino acids glycine and arginine.

AID TO OLDER ADULTS

- With aging and reduced physical activity, there are decreases in muscle creatine, muscle mass, bone density, and strength. However, there is evidence that creatine ingestion may reverse these changes, and subsequently improve activities of daily living.
- The benefits afforded to older adults through creatine ingestion are substantial, can improve quality of life, and ultimately may reduce the disease burden associated with sarcopenia and cognitive dysfunction.
- Higher brain creatine is associated with improved neuropsychological performance, and recently, creatine supplementation has been shown to increase brain creatine and phosphocreatine.

Effect of Creatine Supplementation on Memory Test Scores Taken After 1 and 2 Weeks of Creatine Supplementation



HOW CREATINE WORKS

- Can increase satellite cell signaling, which aids muscle repair and new muscle growth Raised anabolic hormones: Studies note a rise in hormones, such as IGF-1, after taking creatine
- Shows an Increased cell hydration. Lifts water content within your muscle cells, which causes a cell volumization effect that may play a role in muscle growth
- Reduces protein breakdown. May increase total muscle mass by reducing muscle breakdown
- Also lowers myostatin levels. Elevated levels of the protein myostatin can slow or totally inhibit new muscle growth. Supplementing with creatine can reduce these levels, increasing growth potential
- The ingestion of the dietary supplement creatine (about 20 g/day for 5 days or about 2 g/day for 30 days) results in increased skeletal muscle creatine and phosphocreatine.

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