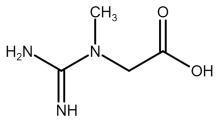
THESIS _ **AUTOTELIC** **#3v1- Creatine**

Thesis: { a premise put forward to be maintained or proved }
Autotelic: { deriving meaning and purpose from within, i.e., process is purpose.}



"I'm really struggling to find anybody on the planet that would not benefit from creatine in some form or another."

- Dr Darren Candow, Ph.D

"...not even taking creatine monohydrate, and I'm like, well, you're stepping over dollars to pick up pennies because this is just the lowest hanging fruit."

- Layne Norton, Ph.D.

"We have 40 years worth of data of people on the supplement now...all the data...from a safety standpoint... has two thumbs up."

- Dr Stuart Phillips, Ph.D

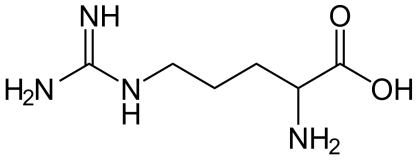
"Creatine's full benefits are unlocked when individuals incorporate regular exercise into their routine."

- Dr Darren Candow, Ph.D

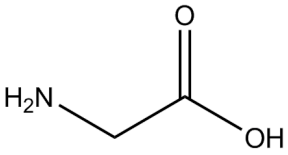
WHAT IS CREATINE

Discovered in 1832, use as a supplement began in the 1990s.

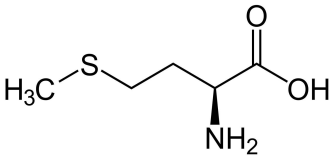
Creatine is a compound similar to protein, composed of three amino acids:



ARGININE

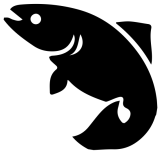


GLYCINE

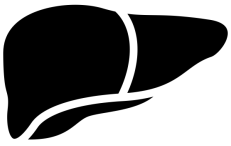


METHIONINE

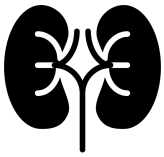
Creatine can be obtained through food sources like beef, fish, or supplements.



Some organs in the body, e.g., the liver, kidneys, and even the brain, can synthesize creatine.



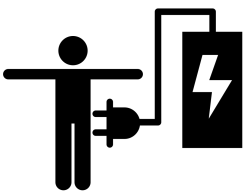
LIVER



KIDNEYS

BRAIN

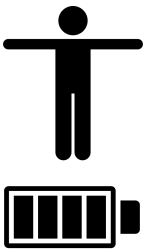
The body has three energy systems: creatine-phosphate, glycolysis, and oxidative phosphorylation.



HOW DOES IT WORK

...creatine doesn't magically increase strength but allows for longer maintenance of high-intensity activity.

- Dr Darren Candow, Ph.D

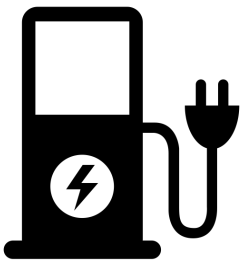


ATP is cell energy. Adenosine Tri-phosphate, and has 3 phosphate molecules.

Phosphate bond broken when exercising, or mental exertion. releasing energy

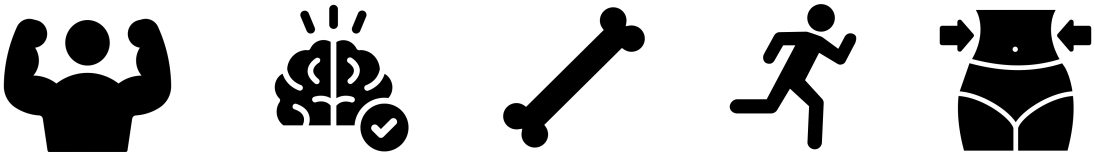
Energy available for muscle contraction. ATP turns into **ADP**, Adenosine Di-phosphate.

Phosphate from creatine-phosphate recharges ADP back into **ATP**. Phosphate bond broken by creatine-Kinase enzyme.



You can think of creatine as an energy refueling station for your cellular tissues. Dontating a phosphate molecule to your ADP stores (flat battery) recharges ADP back to ATP (full battery). Not just in skeletal muscle but in the brain, too.

BENEFITS OF CREATINE SUPPLEMENTS



The evolution of creatine research is moving beyond its initial emphasis on athletes seeking physical performance improvements.

Creatine is now studied for its potential benefits in cognition, concussion, bone health, and overall health for the average individual.

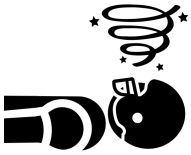
Substantial evidence supports creatine's effectiveness in increasing muscle strength and weightlifting performance.

Creatine is also an osmolite. Hydrated muscle cells create a more anabolic environment, potentially enhancing muscle function.

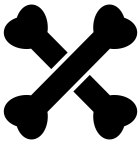
Improvements in lean mass and effectiveness in reducing fat mass in young and older adults.

Creatine reduces muscle protein breakdown.

Nootropic benefits. Creatine's beneficial effects on the brain are pronounced during stress, such as sleep deprivation.



Creatine's anti-inflammatory properties contribute to enhanced recovery post-exercise. Studies indicate that creatine has positive effects on individuals recovering from concussions.



Improving bone strength in post-menopausal females.

Older individuals tend to respond positively to creatine supplementation, showing improvements in cognition and memory.

Creatine helps recover from sporting events and may spare muscle glycogen, reducing fatigue.

CREATINE MYTHS

MYTH: CREATINE IS NOT GOOD FOR YOU.
Creatine has over 40 years of data without evidence of adverse effects.

MYTH: CREATINE IS BAD FOR YOUR KIDNEYS & LIVER.
Studies show no long-term detrimental effects on kidney or liver functions.

MYTH: CREATINE IS ONLY FOR BODYBUILDERS.
Creatine has passed more safety tests than any other supplement, and there is confidence in recommending it.

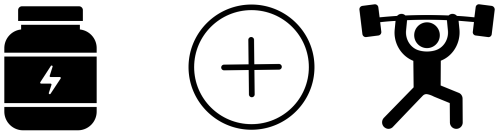
MYTH: CREATINE CAUSES HAIR LOSS
A single unreplicated study from 2009 suggested a link between creatine and increased DHT, a hormone associated with hair loss. However, the evidence is not compelling, and no clear causation has been established.

CREATINE PROTOCOL

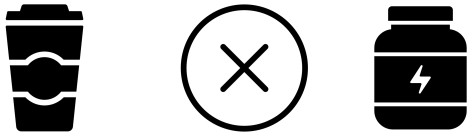
Creatine Monohydrate is the type of creatine supplement you want. The recommended dosage is around five grams per day. Different dosages might be required for muscle, bone, and brain benefits.

You would need to eat +- 450g of meat/ fish to receive 1-2g of creatine, making it impractical or undesirable to receive creatine from meat.

Accumulation of creatine in tissue cells is crucial for optimal results. Creatine doesn't have an immediate effect like caffeine; it needs time to accumulate in muscles, bones, and the brain.



Creatine doesn't magically increase strength. It allows longer, high-intensity activity over time, improving muscular adaptations and strength levels.



Dont mix creatine and caffeine, as there is evidence suggesting that they may blunt each other's effects

CREATINE PROTOCOL

The overall consensus is that continuous use may be more beneficial.

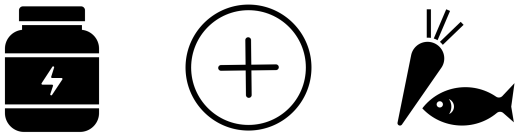
There's no apparent benefit to discontinuing use.

The timing of creatine intake is generally considered irrelevant.

10 grams a day is recommended for total body tissue benefits.

Varied dosages are based on individual needs and goals.

Creatine draws water into the muscles (a good thing), initially leading to temporary water retention, which diminishes as the body adapts.



Combining creatine with protein or carbohydrates enhances its effects.

Smaller, more frequent 2-3g dosages daily avoid potential water retention.

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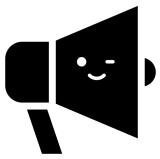
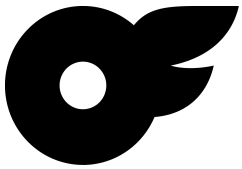


JUST FOR FUN

This document is the product of its creator's research, interpretations, and opinions. It aims to serve as a personal thesis "cheat sheet" on a subject. Although the result of many work hours, this document should not be construed as advice, fact, or professional opinion.

T-A PODCAST



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T-A INSTAGRAM

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