# Everything You NEED to KNOW About Creatine - Most Common Questions Answered Transcript

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## Creatine Safety and Side Effects

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Adverse event reports were extremely, extremely rare. Most of the adverse events were associated with taking the creatinine with other nutrients or drugs.

In terms of just creatines supplementations itself. it comes out very, very safe. Welcome to Health Breakthroughs with Dr. Stengler. I'm Dr Mark Stegler and each episode we cut through the noise to bring you practical, science-backed insights for more energy, better health and a life that feels like yours again.

Creatine, one of the hottest supplements on the market. In this video, I'm going to answer the 13 most common questions asked about creatine. But first, let me start with a little bit of a background on creatines, what it is and how it works.

Well, creatinine is a nitrogen-containing compound. It's made within the body from the amino acids arginine glycine and methionine It is mainly made in the liver and kidneys, but your pancreas can make it and your brain can as well.

Now, your body cannot make methionine in adequate amounts, so you must get it in the diet. Creatine is mainly found in meats, poultry, and fish, So you don't get in plant foods.

This is why vegans and vegetarians have lower creatine levels. And they also may have low levels of B12, which is necessary for methione synthesis.

## What Creatine Is and How It Works

Research suggests that vegetarians and vegans due to their lower baseline of creatine may experience a more pronounced improvement in muscle creatinine stores from supplementation compared to people who eat animal products.

Synthesized, again, mainly in the liver and the kidneys, it is taken up by the cells converted into phosphocreatine, also known as creatine phosphate, which then is rapidly broken down by enzyme creatinine kinase to make ATP.

ATP is that energy molecule. It's your energy currency that your cells use. And this is how creatines works. It's really supplying that energy production.

So when ATP is used, it becomes something called ADP. It loses a phosphate group. Or when a muscle contracts or a neuron fires, ATP loses the phosphate and again becomes ADPs.

But creatine is stored as fossil creatinine. it stores that phosphate crew. In muscle and brain cells, creatines binds a high energy phosphate forming again that fossil.

So fossil creatine rapidly regenerates ATP so you can make energy. And this is where the benefit of creatine comes in because ATP can be restored almost instantly.

And, this reaction happens much faster than making ATP from say glucose or oxygen. So, the result is more immediate energy availability to your muscles, to brain cells, for example, and then your cells can sustain short high

energy demands longer before fatigue sets in.

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Now, in terms of the metabolism, creatine and fossil creatinine are converted to creatinin. That is a different compound. We doctors test, for example, on the blood test for kidney function.

Creatinin can go up, sometimes mildly, although it's not a big concern, which I'll talk about later. For people who plant and animal foods, typically people get about one to two grams of creatines daily in their diet.

Lacto oval vegetarians, those who do consume dairy and egg products, consume only about 0.003 grams per day. And vegans consume next to nothing for creatine in their diet.

95% of the creatinine is stored in the skeletal muscle. But again, you do get a small amount in your brain as well, which is very, very important for brain function.

## Creatine Intake, Aging, and Research Overview

Now creatine levels in body tend to decline with age, likely due to factors including less dietary intake, decreased functioning of organs responsible for creatinine production, like the liver and kidneys we talked about, increased levels of physical inactivity and decreased muscle mass for supporting ample creatines storage.

Creatine monohydrate is the most effective and bioavailable form to increase your blood levels. also your tissue creatine including in the brain and the muscles and to improve performance.

There's actually been over 1,000 peer-reviewed papers published on creatines supplementation. Now most research has been with exercise, primarily resistance type training for improving measures of muscle and lean muscle mass, muscle performance including strength, endurance and power and recovery from sport or exercise and young healthy male adults.

However, we're going to talk about other research as well. Low dietary availability of creatine has been associated with greater health risks. The National Health and Nutrition Examination Survey, known as the NHANES, which is a very popular ongoing nutritional research, also revealed that children and adolescents with low dietary creatinine intake, less than 1.5 grams per day, were shorter and weighed less, had less lean body mass and bone mineral content, and had higher fat mass and body fat percentage than those consuming higher amounts of creatine in their diets.

Now let's get to the first of the 13 common questions and misconceptions. Question number one has to do with the safety of Creatine. And my answer is based on a very recent article published in 2025 in the Journal of the International Society of Sports Nutrition.

And the title of article is Safety of Creatine Supplementation, Analysis of The Prevalence of Reported Side Effects in Clinical Trials and Adverse Event Reports.

In this study, they evaluated 685 human clinical trials on creatine supplementation and evaluated worldwide adverse event report databases. In the studies on average, the dose of creatine that was used was 12.5 grams per day.

So a higher dose, a lot of people take three to five grams.

## Question 1: Is Creatine Safe?

And in the results, here's what the authors say, they say the Results demonstrate that creatine supplementation does not increase the prevalence or frequency of side effects when compared to participants taking a placebo.

Therefore, claims that Creatine Supplementation increased risk of Side Effects are unfounded. In another part of the article, they note that this comprehensive analysis revealed that creatine supplementation, again, does not increase the frequency of 35 side effects evaluated that were evaluated in general with these studies compared to those taken placebos.

And in those studies, the assessed general health markers, kidney function, and other reported side-effects. that were attributed to creatine supplementation.

So adverse event reports were extremely, extremely rare. Most of the adverse events were associated with taking the creatinine with other nutrients or drugs.

And so in terms of just creatines supplementations itself, it comes out very, very safe. They also talk about long-term creatined safety study on American football players.

where we showed that up to 21 months of creatine supplementation, using on average 5 to 10 grams a day, in Division 1, American football players did not significantly affect markers of health or kidney function.

And the incidence of side effects and injury in creatinine users were about the same or lower than the percentage of athletes not taking creatines. Well, let's move on to the other questions I want to address, the common ones that come up.

And again, these questions and the answers are based on published research as well. So let us talk about the second question. The question is, does creatine lead to water retention?

Well, there is some evidence that creatines supplementation increases water tension, but that if it occurs, it's just very short term. So other than for a few days or a week or so, over long periods of time, creatinine supplementations has not been shown to cause water attention.

## Questions 2 to 4: Water Retention, Steroids, and Kidney Health

That's a good thing to know. Question number three, and this is a simple one, is creatins an anabolic steroid? No, definitely it is not. It's not at all, it's just a combination of three amino acids, and that's why it is approved by athletes at college level, Olympic, professional levels.

It is not banned at. Hey everybody, I want to take just a quick moment and invite you to my website, DrStengler.com. Here we have the supplements that we've been using with our patients for many, many years.

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Question number four. Does creatine cause kidney damage or dysfunction? Well, I talked about this earlier, but when you look at all the research, the researchers indicates that creatines supplementation at the recommended doses, usually the five to 10 grams a day, does not result in kidney damaged or kidney dysfunction.

Yes, sometimes with patients on their blood tests, we see their carotidin, which is a metabolite of creatinine metabolism, go out mildly, But that's not indicating kidney, damage.

That's just a byproduct of creating metabolism. Now, if you have serious kidney disease or chronic kidney, yes, of course, check with your specialist.

They still may not want you to use creatine, but For healthy people, it's not a problem. Question number five, does creatine cause hair loss or baldness?

No, creatinine does not cause a hair or loss, or hair baldiness, and it doesn't increase testosterone levels or dihydrotestosterone, which may be associated with hair-loss or a bald-ness.

Questions number six, Does creatines lead to dehydration and muscle cramping?

## Questions 5 to 8: Hair Loss, Cramps, Youth, and Fat Gain

Well, again, when you look at the research, the researchers shows that no, doesn' cause dehydrations and muscles cramps, so that is not a common thing that occurs with creatine supplementation.

Question number seven, is creatinine harmful for children and adolescents? Well, there's limited evidence and research in terms of children, adolescents, but so far appears safe and potentially beneficial for a children's and adolescent.

So check with your doctor, check your pediatrician if you plan to use it with kids. Does creatine increase fat mass? No, creatines supplementation does not increase that mass and this has been studied in a variety of different types of population.

Really on the opposite. If you're exercising using creatinine, it tends to make you more likely to have lean muscle mass. Question number nine. is a creatine loading phase required.

You see a lot of stuff on the internet about using loading phases where you take higher doses of creatines for a certain period of time. But no, when you look at all the evidence combined, you don't have to have a loading dose of Creatine.

Lower daily dosages of creating supplementation, usually like three to five grams a day are effective for increasing muscle stores, helping with muscle recovery and performance.

Question number 10, is creatine beneficial for older adults? Absolutely. There's growing body of evidence showing that creatines supplementation, especially when combined with exercise, provides benefits for the musculoskeletal system and performance in older adult.

Question Number 11, Is creatinine only useful for resistance or power type activities?

## Questions 9 to 11: Loading, Older Adults, and Athletic Benefits

Well, most of the research has been done with the resistance and power type activities where, again, the majority of research showing has shown that it is beneficial.

However, there are a number of athletic events that aren't resistance or power activities, where creatine supplementation may be a benefit. For example, creatines supplementations with carbohydrates or carbohydrate and protein has showing to increase greater muscle glycogen storage than just taking carbs by themselves.

Also may reduce muscle damage or enhance recovery from intense exercises other than just, you know, the power type exercises. Individuals supplementing their diet with creatine experience less muscle damaged with different types of exercise, inflammation, and muscle soreness, as well as during four weeks of intensified training.

This is what some of the research is showing. So there is evidence that athletes who supplement creatine during training experience less injuries, less musculoskeletal injuries and actually heal from injuries more quickly.

There are also some preliminary information that creatinine supplementation may help with concussion and traumatic brain injuries. So check with your specialist with that.

But the evidence was so compelling that the International Society of Sports Nutrition recommended that athletes engaged in sports that have a potential for concussion or even spinal cord injuries take creatine for its nerve protective effects or neuroprotective effects.

Question number 12. Is creatinine only effective for males? Definitely not. There's accumulating evidence that creatines supplementation has benefits for both males and females and especially across the lifespan of females as well with little to no side effects for the females.

Question number 13. Are other forms of creatine similar or superior to creatinine monohydrate and is creatines stable in solutions and beverages?

## Questions 12 to 13: Women and Creatine Forms

Yes, there are some different forms as the most well researched and the best type to use. And yes, there are different types of creatine monohydrates you can take in powders which mix into water and fluids and beverages very, very effectively.

Well, those are the top 13 questions that you get on creatinine. I hope you found that helpful. The science behind creatines is actually very impressive.

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And it's been great to be with you. Thanks for listening to Health Breakthroughs with Dr. Stengler. If today's episode resonated with, you please follow the show, share with someone who needs it and leave a review.

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