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Emerging Health Benefits of Creatine Supplements

Analysis by Dr. Joseph Mercola | September 17, 2025

STORY AT-A-GLANCE

- Creatine isn't just for athletes — it fuels brain function, immune response, and recovery from stress and illness by supporting how your cells make and recycle energy
- Older adults, vegetarians, and those with brain fog or long COVID are especially likely to benefit from creatine, as natural production and intake often fall short
- Daily creatine supplementation improves memory, learning, and executive function in aging adults, including those with Alzheimer's disease
- When combined with resistance training, creatine helps build lean muscle, speed recovery, and reduce the risk of frailty-related falls and fractures
- Grass fed red meat is one of the best food sources, but supplementing 3 to 5 grams of creatine monohydrate daily is a safe and effective way to increase levels

Creatine is one of the most overlooked nutrients for energy, even though it plays a central role in how your body stores and uses fuel. You've likely heard of it in the context of gym culture, but creatine isn't just for athletes — it's foundational to how every cell in your body makes energy, especially the ones in your brain and muscles.

What makes creatine unique is its role in buffering and recycling cellular energy. It works behind the scenes to keep your energy output stable and responsive, particularly during moments of high demand — like physical exertion, mental stress, or immune recovery. This system becomes even more important as you get older or face ongoing metabolic stress, when your body's natural production of creatine begins to fall short.

The video above shows how your body makes creatine from two common amino acids, why it's essential for energy metabolism, and what goes wrong when your body can't make enough. Emerging research now connects low creatine stores to much more than performance issues.

From cognitive fatigue and vascular stiffness to mitochondrial dysfunction and loss of muscle integrity, the downstream effects of creatine deficiency are far-reaching. While your body can manufacture small amounts on its own, getting enough through diet or supplementation is key to protecting long-term health.

Creatine Supports Healing, Memory, and Recovery When Your Cells Are Under Stress

An article published by Dr. Robert Malone explores creatine's overlooked role in human health beyond its use in bodybuilding and sports.[1] This naturally produced compound — also found in red meat and seafood — fuels muscle performance, memory, healing, and immune resilience by supporting adenosine triphosphate (ATP) production inside your cells. Creatine also has overlooked benefits for cognitive performance, injury prevention, and recovery from viral syndromes like long COVID and post-shot fatigue.

- **Creatine is useful across several groups of people —** Creatine is especially relevant if you're over 60, recovering from viral illness, vegetarian, or dealing with brain fog or fatigue. Most creatine from supplementation is absorbed into muscle tissue, but a portion also supports brain phosphocreatine reserves, which are key for mental clarity, learning, and decision-making under stress.

  If your diet lacks red meat or your energy output is high, your body will likely fall behind in producing enough creatine to keep up.

- **Creatine improves energy production by boosting phosphocreatine reserves —** Your body uses ATP for nearly every action — from moving your limbs to forming a new memory. Creatine helps replenish ATP by donating a phosphate group via

phosphocreatine. This process allows your muscles and brain to work harder and recover faster.

- **Creatine speeds up muscle healing after exertion —** When you exercise, your muscle fibers get tiny tears — a normal part of building strength. Creatine helps repair these tears faster by activating satellite cells, which are like internal repairmen for your muscles. Faster repair equals faster recovery and improved performance. This is particularly important as you age and your natural regenerative capacity slows down.

- **It supports hydration inside your muscle cells and protects against cramps —** Creatine draws water into muscle cells, which may help with hydration and nutrient delivery while reducing the risk of muscle cramps and heat-related fatigue during activity. Malone notes this cellular hydration effect may explain why some athletes feel fuller muscle or quicker post-workout recovery.

Creatine Boosts Brain Energy and Cognition

In a pilot study, daily supplementation with 20 grams of creatine monohydrate for eight weeks significantly raised **brain creatine levels** and improved cognitive scores in older adults with Alzheimer's disease, suggesting creatine could help restore **brain energy** balance and support memory, language, and executive function.[2]

- **Supplementation improves memory and learning — especially in older adults —** A 2023 systematic review and meta-analysis found creatine improved memory performance in adults between ages 66 and 76.[3]

  One study from Neuropsychology, Development, and Cognition showed that older participants taking 5 grams (g) of creatine per day experienced improvements in most cognitive tasks.[4] These studies suggest creatine supports not just physical but also cognitive performance as you age.[5]

- **Creatine supports immune resilience and recovery from viral damage —** Creatine also supports energy production in the context of **long COVID** and post-viral fatigue syndrome. These conditions are characterized by chronic exhaustion, brain fog, and exercise intolerance — symptoms linked to mitochondrial dysfunction.

  Malone notes that recent reviews identify creatine metabolism as a key mechanism disrupted in these syndromes and suggests that supplementation could improve energy production and reduce symptoms.[6]

- **It may also help with post-vaccination injury recovery —** Malone draws attention to overlapping symptoms between long COVID and **post-injection syndrome**. Both are linked to spike protein exposure and mitochondrial stress. Given creatine's safety profile and energy-enhancing effects, physicians treating post-jab injury should consider creatine support.

Creatine Plus Resistance Training Enhances Vitality in Aging Adults

A paper published in Frontiers in Physiology explored how combining creatine supplementation with resistance training affects physical and cognitive health in older adults.[7] The researchers reviewed existing evidence to determine whether creatine offers unique advantages when used alongside strength-focused exercise to delay age-related decline. Their conclusion: creatine plus training is one of the most powerful strategies for preserving both strength and brain function in older populations.

- **The biggest improvements were seen in strength, lean mass, and daily function —** When creatine was taken alongside a regular strength training routine, older adults gained more lean muscle mass, improved their upper body power, and showed greater functional mobility compared to training alone. These are all key for maintaining your independence as you age.

- **Cognitive function also improved, particularly in executive control and memory —** In addition to physical gains, the researchers found that creatine supported mental clarity and task performance. The largest brain benefits appeared in tasks that required executive function — like attention span, information processing speed, and memory.

- **The synergistic effects came from creatine's impact on energy, cell signaling, and regeneration —** The authors described several mechanisms behind the improved outcomes. Creatine enhances ATP recycling in both muscle and brain tissue — giving your cells more energy to perform and recover. It also reduces muscle breakdown and activates satellite cells — the stem-like cells responsible for muscle repair and hypertrophy.

Creatine Helps Combat Osteosarcopenia in Older Adults

As aging populations grow, more older adults are developing osteosarcopenia — a condition that combines **osteoporosis** with sarcopenia (loss of muscle mass and strength). This combination significantly increases the risk of falls, fractures, and early death.

- **Creatine is a safe, natural intervention that supports both muscle and bone —** A review in Nutrients found that creatine monohydrate helps aging muscles generate energy more efficiently, which improves strength and performance when paired with resistance training.[8]

- **On the bone side, creatine protects structure and enhances function —** Bone-building cells (osteoblasts) rely on energy from the same ATP-regenerating system that creatine supports. The review highlighted that creatine may stimulate osteoblast activity and promote bone mineralization, while also helping block osteoclasts — the cells that break down bone.[9]

  Although creatine hasn't been shown to dramatically increase bone mineral density, it improves bone geometry and strength, reducing fracture risk over time.

- **Supplementing creatine becomes even more important with age-related dietary gaps —** Many older adults consume less meat and fish, which are the primary food sources of creatine. This dietary decline, combined with reduced natural creatine synthesis, makes supplementation a valuable tool for restoring energy metabolism in both muscle and bone cells. Daily doses of 3 g of creatine monohydrate are considered safe for long-term use and effective for replenishing depleted stores.
- **Creatine works best when combined with exercise and other key nutrients —** Creatine's muscle and bone benefits are amplified by **resistance training** and enhanced further when paired with other nutrients like **vitamin D**.

Restore Brain Energy and Cellular Vitality at the Source

You don't have to wait until symptoms spiral before you act. If you've been feeling worn down, mentally foggy, or slow to recover from stress or exertion, creatine might not be the first thing that comes to mind — but it should be on your radar.

Not as a quick fix, but as part of a focused strategy to restore the cellular energy systems that power your muscles, brain, and immune defenses. Here's how to start rebuilding your creatine levels, restoring mitochondrial function, and protecting your energy-producing systems from decline:

1. **Prioritize creatine-rich foods like grass fed beef —** Your body does make creatine on its own, but it's often not enough to meet the increased energy demands that come with aging, stress, illness, or high physical and cognitive workload. One effective way to raise your creatine supply is through food.

   Grass fed red meat is your top source, delivering intact creatine along with cofactors that support energy metabolism. Skip conventionally raised chicken and pork, which are high in **linoleic acid** (LA) — a polyunsaturated fat that suppresses cellular energy production and counteracts creatine's protective effects.

2. **Consider supplements if you follow a strict plant-based diet —** If you're following a plant-based diet, you're not getting any creatine from food — it doesn't exist in plants. That means you're relying entirely on your body's internal production, which may not be enough to meet your energy needs, especially as you age or recover from illness.

   If you're experiencing fatigue, brain fog, or slower healing, it would be wise to reassess your diet — or at least add a high-quality creatine supplement to support your brain and muscle energy.

3. **Use creatine monohydrate if you plan to supplement —** Creatine monohydrate is the gold standard in supplementation — safe, stable, and backed by decades of research. It mixes easily into water or juice and doesn't require a loading phase or cycling. The sweet spot for daily use is 3 to 5 g.

   That's the range shown in studies to improve memory, support muscle healing, and enhance recovery from physical and cognitive stressors — especially in older adults or those recovering from illness. Avoid mega-doses. More is not better and increases the risk of digestive upset.

4. **Pair creatine with recovery nutrients like magnesium and vitamin E —** Creatine's benefits are amplified when supported by other nutrients involved in cellular repair and energy production. Magnesium plays a central role in stabilizing ATP and also supports nerve and muscle function.

   Natural vitamin E helps protect your cell membranes from oxidative damage, ensuring creatine does its job efficiently inside your tissues. These nutrients are especially helpful if you're recovering from chronic stress, illness, or long COVID.

5. **Protect your mitochondria — the root of your energy resilience —** Creatine is just one piece of the larger energy puzzle. If your mitochondria — the energy factories of your cells — are compromised, no amount of creatine will fully compensate. To restore full energy capacity, you need to support mitochondrial repair.

That means avoiding vegetable oils high in LA, which impair energy metabolism, and eating metabolically supportive foods. Adequate sunlight, restorative sleep, and gentle resistance training also help revitalize mitochondrial function. Creatine works best when it's part of this broader approach to cellular recovery and resilience.

FAQs About Creatine

Q: What does creatine do in my body besides support athletic performance?

A: Creatine helps buffer and recycle ATP, your body's main energy molecule. It's essential not only for physical exertion but also for cognitive function, immune response, muscle healing, and recovery from stress or illness.

Q: Who benefits most from creatine supplementation?

A: Creatine is especially helpful for older adults, vegetarians or vegans, individuals recovering from viral illness or chronic fatigue, and anyone experiencing brain fog, muscle weakness, or slow recovery from exertion. Age, illness, and low meat intake all reduce your body's creatine supply.

Q: Does creatine help with brain health and cognition?

A: Yes. Studies show creatine improves memory, executive function, and learning in older adults — including those with Alzheimer's disease. It enhances brain energy reserves and supports recovery from mitochondrial dysfunction seen in long COVID and post-injection syndromes.

Q: What form and dose of creatine is best?

A: Creatine monohydrate is the most studied and effective form. A daily dose of 3 to 5 g is shown to support brain and muscle energy, memory, and recovery.

Q: How do I naturally increase my creatine levels?

A: Eating grass fed red meat will boost your creatine intake. If you follow a plant-based diet or have higher energy demands, consider supplementation. Pairing creatine with nutrients like magnesium and vitamin E, and avoiding vegetable oils, helps optimize its benefits.

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