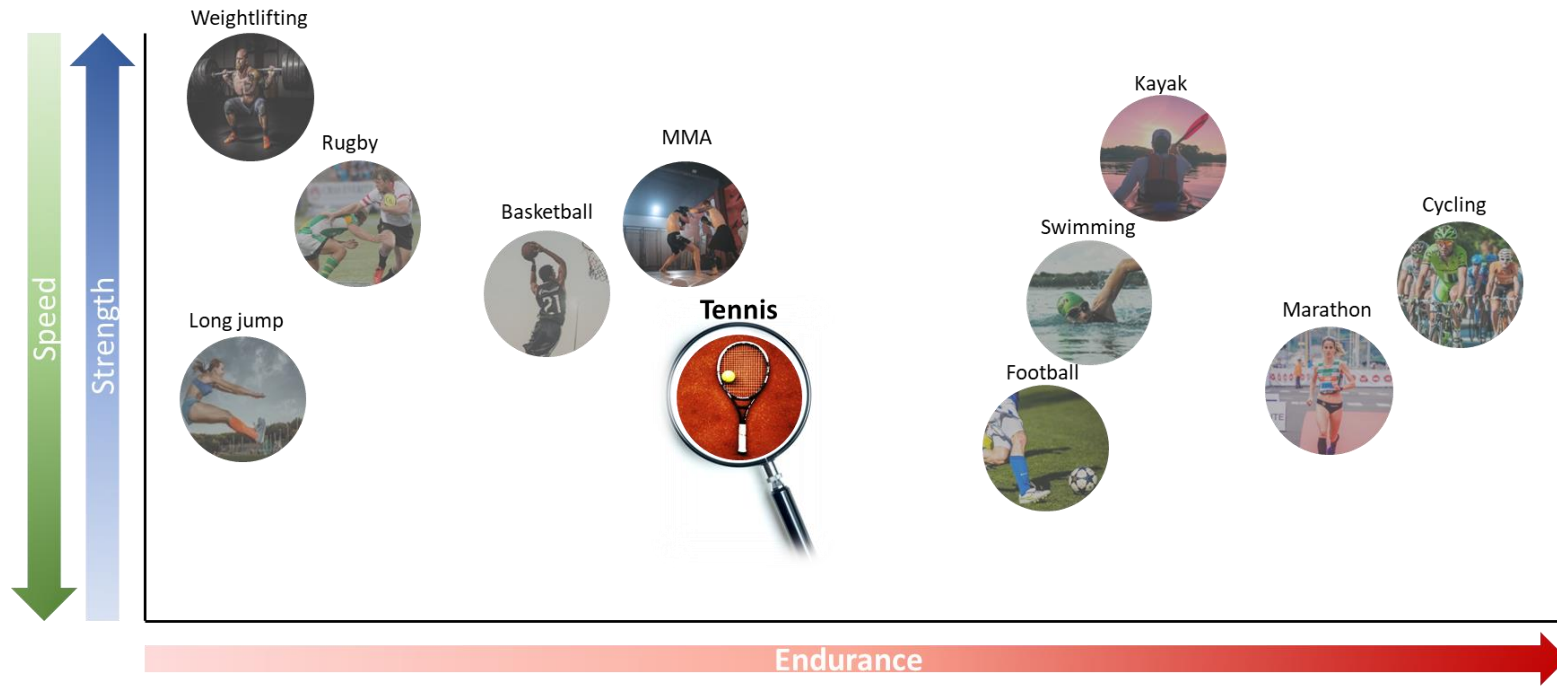


How **Cregaatine** could improve Tennis performance

Basics of Tennis

Tennis is a game of short, repetitive, high-intensity activities interspersed with rest periods. Because of its complex nature, it depends on both aerobic and anaerobic energy systems.



Game characteristics

- Match duration ≈ 1.5h
- Work to rest ratio ≈ 1:5
- Average HR 60-80%
- Point length < 10 sec.
- Distance covered per point 8 - 12 m
- Change of directions per point 3-5 times

Player card

- Vo2max 52 ml/kg/min
- Max. power 4.8 W/kg
- 10m sprint 1.79 s
- 20m sprint 3.14 s
- Max. grip strength 600 N

Freepick.com

Kovacs, M. S. (2006). Applied physiology of tennis performance. *British journal of sports medicine*, 40(5), 381-386.

Laursen, P., & Buchheit, M. (2019). *Science and application of high-intensity interval training*. Human kinetics.

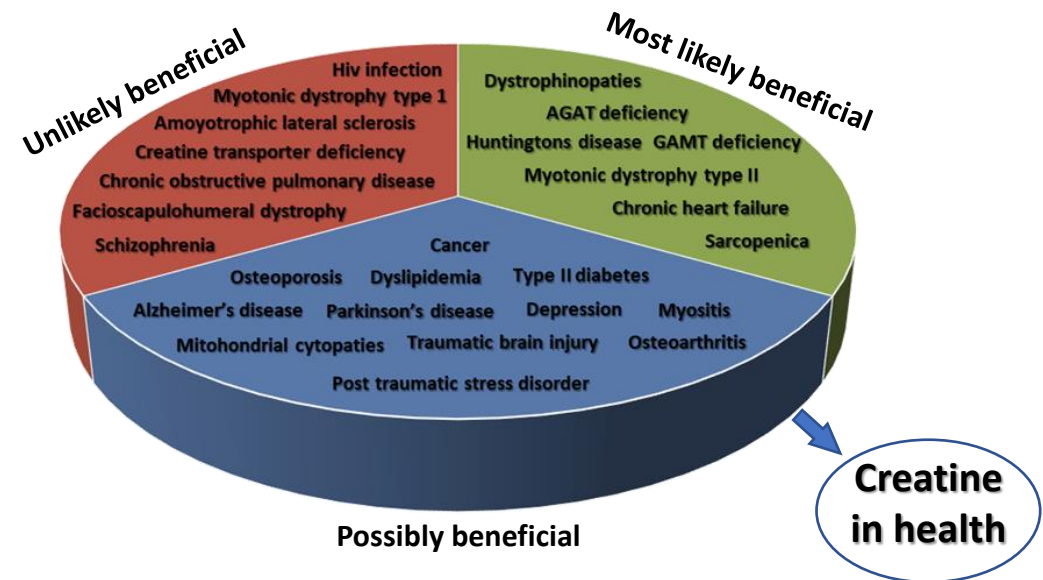
Basics of creatine



Creatine is a derivative of the amino acid glycine and is naturally synthesized in our body, primarily in the liver, while in smaller quantities, it can be synthesized in the kidneys and pancreas.

Main Benefits of creatine

1. Improves brain health
2. Reduces risk of depression
3. Improves overall strength and power
4. Improves body composition
5. Enhance injury prevention and rehabilitation
6. Enhance recovery

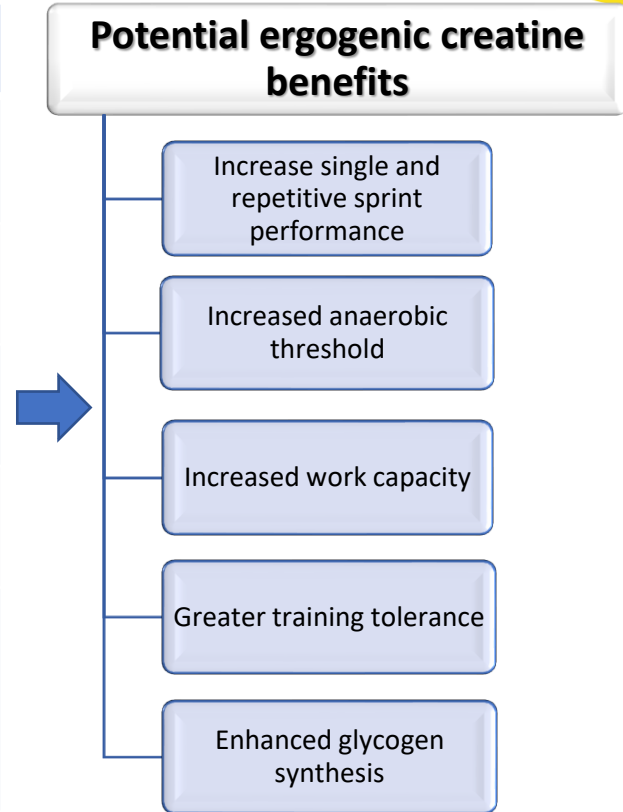


Creatine plays a significant role in energy metabolism as a substrate in the formation of adenosine triphosphate (ATP) in the process of adenosine diphosphate (ADP) phosphorylation in short and high-intensity activities. In the first 6 seconds of maximal intensity, 30-50% of creatine is emptied, while after 30 seconds, 80% of creatine is reduced from muscle.

Creatine in Tennis



Strategies of creatine supplementations for Tennis players	
Dose	Loading dose: 20g/day (0.3g/kg/day) for 5-7 days followed by 3-5g/day. Alternative strategy 0.03g/kg/day
Co-ingestion	Mix with water and ingest with carbohydrate or proteins
Potential benefits	Enhancing performance, enhance recovery, improve training practice...
Prevalence	Around 15% of tennis players consume creatine
Considurations	Only two studies up to date evaluated creatine effects on specific tennis performance. Neither a high dosage for 5 days (20g/day) nor a load period of six days (0.3g/kg) followed by a maintenance period (0.03g/kg) of 5 weeks shown any significant improvements.



Around 70% of top 100 players were supplemented in one point of the career with creatine, while 15 % of all tennis players takes creatine supplementation.

Op't Eijnde, B., Vergauwen, L., & Hespel, P. (2001). Creatine loading does not impact on stroke performance in tennis. *International journal of sports medicine*, 22(01), 76-80.

Pluim, B. M., Ferrauti, A., Broekhof, F., Deutekom, M., Gotzmann, A., Kuipers, H., & Weber, K. (2006). The effects of creatine supplementation on selected factors of tennis specific training. *British journal of sports medicine*, 40(6), 507-512.

Basics of Cregaatine

Creggatine is a combination of Creatine and Guanidinoacetic acid (GAA) in 1:1 ratio. GAA is creatine precursor, but it have plethora of other actions. It have all capabilities of creatine. What make Cregaatine so special is GAA. Its like a puzzle, GAA continues where creatine have some limitations.

- Cregaatine has more entres gates in to the muscule. Due to this property, it can increase creatine levels in muscles faster and more successfully and increase energy levels
- Cregaatine improves weaker muscle groups (upper body) probably because of more excess to the cells. This is extremely important in sport like tennis
- Cregaatine formulation had smaller rates of non-responders (e.g. about 20-30% of creatine users are non-responders)
- Cregaatine does not affect body mass and total body water



Creatine entrence to the cell



GAA entrence to the cell



Creatine vs CreGAAtine in Tennis



Why is cregaatine better for tennis players ???

It has all the creatine capabilities but addition of GAA gives him a hump over the edge.

- **CREGAATINE** improves weaker muscle groups, usually upper body, which could make the huge impact on tennis performance (e.g. service, forhand, backhand)
- **CREGAATINE** does not influence body weight and body water, unlike creatine does
- **CREGAATINE** has antioxidant and pro-oxidant capacities
- **CREGAATINE** can enhance recovery
- **CREGAATINE** increases levels of brain creatine more efficiently than any other creatine supplement. This could influence decision-making strategies and enhance alertness
- There is no need for loading phase with **CREGAATINE** supplementation



CREGAATINE might be a "silver bullet" for tennis players. It's reasonable to assume that it could have a significant impact on tennis performance.





www.cregaatine.si