

The 411 on Sports Supplements



Whether you exercise occasionally or are a competitive athlete, chances are that you've heard of many different types of supplements and ingredients that make a promise to boost your workout, performance, and energy. There are hundreds of products on the market, which can be both overwhelming and confusing. Additionally, there may be limited or contradicting evidence that most of these work as promised! It's important to be informed about these products and understand that the US Food and Drug Administration is not authorized to evaluate the safety of these items before they go on the market. This means that taking them may pose some health risks.

The table below shows research findings behind popular ingredients in sports supplements.

Make sure to consult your physician prior to using any supplements!

For additional information and other ingredients, see the Helpful Resources section.

Ingredient*	Suggested Function & Efficacy	Safety
Beet juice or Beetroot	<p>Helps increase blood flow, reduces oxygen use, and may improve the production of energy in our bodies via the conversion of nitric oxide.</p> <p>May have the most benefits for people who exercise recreationally; however, there are a limited amount of research studies. Peak effect occurs at about 2 hours after consumption.</p>	<p>There are no known safety concerns when used for a short period of time and there are no adverse effects reported when consumed at the typically recommended amount of 500 ml (2 cups) of beetroot juice 2-3 hours before exercise.</p>
Branched-chain amino acids (BCAAs)	<p>Help stimulate protein synthesis, muscle growth, and delay feelings of fatigue.</p> <p>There's very little evidence to date that BCAAs help with protein synthesis more than consuming high-quality protein (ex. chicken, fish, meat, eggs, soy, & quinoa) does.</p>	<p>There are no known concerns with the safety of using BCAAs for amounts of 20 g/day or less during a 6-week period.</p>
Caffeine	<p>Stimulates the nervous system, provide an energy boost, and help reduce the perception of pain</p> <p>Studies show that it may help enhance performance for endurance athletes.</p>	<p>A safe amount to consume is up to 400-500 mg (4-5 cups of coffee) a day.</p> <p>However, side effects of too much caffeine can include restlessness, nausea, and rapid heartbeat. Risk of death can also occur when consuming 1000 – 1400 mg.</p>
Creatine	<p>Helps give muscles a boost of energy for strength building, anaerobic exercises</p> <p>Studies indicate that for strength athletes, it may be beneficial in increasing power and strength.</p>	<p>If using a typically recommended dose of 20g/day for up to 7 days or 3-5 g/day for up to 12 weeks, there are few concerns for safety</p> <p>Adverse effects can include weight gain, nausea, diarrhea, muscle cramps, and heat intolerance.</p>

Ingredient*	Suggested Function & Efficacy	Safety
Protein (supplements)	<p>Builds, repairs, and maintains muscles.</p> <p>Studies show that increased muscle protein synthesis, strength, and muscle growth is optimal when consuming high-quality protein within 2 hours after exercise.</p>	<p>There are no safety concerns or adverse effects when consuming high-quality protein at recommended amounts of 1.2 – 1.8 g/kg of body weight for healthy athletes.</p> <p>However, athletes should take caution if high amount of their protein intake is from supplements and powders.**</p>
Tart or Sour Cherry	<p>Phytochemicals may have an anti-inflammatory effect that can aid in recovery from exercise.</p> <p>There is not enough research to show improved performance for aerobic activities. Results also vary on whether or not muscle this supplement aids in muscle strength recovery, reducing soreness, or reducing inflammation.</p>	<p>There aren't any safety concerns currently reported for intakes of 16 oz of tart cherry juice or 480mg of freeze-dried Montmorency tart-cherry-skin powder each day for up to 14 days.</p>

*Note: it's important to remember that these supplements are not a replacement for good nutrition.

**Most Americans get 2-3 times the amount of protein they need, so protein supplements may not be necessary.

Helpful Resources:

1.) **Information for Consumers on Using Dietary Supplements. U.S. Food and Drug Administration.**

<https://www.fda.gov/food/dietary-supplements/information-consumers-using-dietary-supplements>

2.) **Dietary Supplements for Exercise and Athletic Performance: Fact Sheet for Health Professionals.** National Institutes of Health Office of Dietary Supplements.

<https://ods.od.nih.gov/factsheets/ExerciseAndAthleticPerformance-HealthProfessional/>