# Caffeine and Sports Performance

***I've heard caffeine can provide an extra lift during workouts and improve my performance, but I understand that high amounts may lead to a positive test for a banned substance.***

***Should caffeine be part of my nutrition plan? Do some forms of caffeine offer advantages over others?***



## THE ESSENTIALS

Moderate daily caffeine intake (200-300 milligrams) from food, drinks and/or supplements is generally considered safe and well tolerated. Research supports benefits for physical and mental performance, but the dose, timing and source of caffeine require careful thought.

## How Much Caffeine Do You Consume?

| Food or Drink With Caffeine | Caffeine Amount (Milligrams) |
|---|---|
| Home-brewed drip coffee, 8 ounces | 80-100 |
| Instant coffee, 8 ounces | 65-100 |
| Espresso, 2 ounces (latte, cappuccino, Americano) | 100 |
| Decaffeinated coffee, 8 ounces | 5 |
| Brewed tea, 8 ounces | 50 |
| Caffeinated soft drink, 12 ounces | 35-55 |
| Energy drink, 12-20 ounces per serving | Amounts vary; read drink and bar labels. Typical range: 80-350 milligrams. |
| Caffeinated energy bar | 50 or 100 |
| Dark chocolate, 1.5 ounces | 30 |
| One caffeine tablet | 200 |

*Prepared by ASPDA and SHPN Registered Dietitian Nutritionists (RDNs). For guidance on personalized fueling and supplements, speak with a sports RDN, preferably a Board Certified Specialist in Sports Dietetics (CSSD), or an athletics health care provider.*



## USING CAFFEINE TO SUPPORT PERFORMANCE

- **Food comes first.** Feeling more energetic after caffeine does not replace the energy food provides. Its possible performance benefits cannot offset poor eating or lifestyle habits, such as too little sleep. Work with a sports dietitian or your primary athletics health care provider to develop a personal nutrition plan that supports your energy, nutrient and recovery needs.
- **Dose and timing.** Before using caffeine to improve performance, ask your athletics health care provider or dietitian to help you choose an appropriate amount and time to take it. Performance benefits may continue for up to four hours. Caffeinated chewing gum is absorbed through the mouth and has been shown to reach the bloodstream more quickly.
- **Product form.** Supplements and medicines usually contain standardized caffeine amounts. Levels in coffee, tea and energy drinks can differ widely. Check product labels so you know how much caffeine you are taking.
- **Daily habits.** Consider the caffeinated products you already use throughout the day before adding another one. Combining coffee, energy drinks and supplements can rapidly increase your total intake and cause unwanted reactions.
- **Individual response.** People who process caffeine faster often see more performance benefits. Those who process it slowly may have stronger side effects and fewer benefits. Begin with a modest dose and test new fueling approaches, including caffeine, BEFORE competition so you know how your body will respond.

## POSSIBLE RISKS

- At high doses, the NCAA classifies caffeine as a banned substance. A urine concentration of 15 micrograms per milliliter or more produces a positive drug test.
- People process caffeine differently, but 15 micrograms per milliliter is generally viewed as equivalent to six to eight cups of coffee.
- As energy drinks have become more popular, more products now combine vitamins and herbal ingredients. Not every combination is considered safe. Unlike medicines, supplements do not need FDA approval before they are sold. Speak with your athletics health care provider or dietitian before trying a caffeine source that is unfamiliar to you.
- Large caffeine doses may cause digestive problems, nausea or shaking. "Overstimulation" can also harm mental health, training, sleep and athletic performance.
- For people who use caffeine regularly, withdrawal may bring headache, fatigue, depression, irritability, insomnia, a faster or irregular heartbeat, and higher blood pressure.
- Taking caffeine without enough fluids may impair temperature regulation when athletes train in hot conditions.

## POSSIBLE BENEFITS

- Better muscular endurance, strength, power and sprinting performance.
- Less pain and a reduced sense of fatigue, making higher-intensity training possible.
- Better body coordination, sharper focus and concentration, and improved ability to maintain training intensity.



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