

Caffeine and Athlete Performance

Athlete Scenario

I usually have a couple of cups of coffee before my long bike rides. My riding partners swear that caffeine gives them a competitive edge and tell me that I should be consuming more. Is all of the hype about caffeine true, and if so, how much is safe?

Potential Benefits:

- There is evidence that caffeine may enhance performance in endurance athletes (e.g. cyclists, runners, swimmers and rowers) and speed endurance athletes (e.g. mid-distance runners, and soccer, rugby and hockey players).
- Caffeine does not appear to increase weight loss but may delay fatigue and improve mental sharpness.

Potential Risks:

- Side effects include: anxiety, jitteriness, rapid heartbeat, upset stomach, and insomnia.
- Caffeine is an addictive substance. Tolerance may minimize benefits, and withdrawal symptoms can negatively impact performance.
- Caffeine, in high amounts (>15 ug/mL in the urine), is a banned substance by the NCAA. For most individuals, more than 500mg right before competition may result in a positive test.

Strategies for Caffeine Consumers:

- **Timing:** ~1 hour pre-competition, but practice during training first
- **Amount:** Tolerance depends on the individual, but 2 – 6 mg/kg body weight (no more than 9 mg/kg) is adequate.
- **Type:** Researchers suggest that caffeine, in pill form, may be more effective than drinking coffee and is better tolerated.

Caffeine Source	Amount (mg)
Brewed Coffee (8 oz.)	60 – 150
Energy Drinks / Energy Bars (<i>varies depending on size & brand</i>)	80 – 200+
Pills (1 tablet)	100
Soda / Tea (8 oz.)	40 – 60

Written by SCAN registered dietitians (RDs) to provide nutrition guidance. The key to optimal meal planning is individualization. Contact a SCAN RD for personalized nutrition plans. Access "Find a SCAN RD" at www.scandpg.org or by phone at 800.249.2875.

Tips to Take With You

1. Know what you're putting in your body. Some caffeine-containing products may have additional additives that could impair performance.
2. In moderation, caffeine does not cause dehydration or electrolyte imbalance, but athletes should rely on non-caffeinated beverages when rapid hydration is necessary.
3. Meet with a sports RD to determine if caffeine is appropriate for you.

Contact SCAN

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