

AISSPORTS SUPPLEMENT FRAMEWORK

CAFFEINE GROUP A



Caffeine is a stimulant naturally found in the leaves, beans and fruit of a variety of plants. It is regularly consumed by ~90% of Australian adults with an average intake of 175mg/day (i.e. ~2 espresso shots). Following ingestion, caffeine is rapidly absorbed and transported to all body tissues and organs where it exerts a direct stimulatory effect on the muscles, while also decreasing the perception of how hard you are working. It is probably the most well-researched supplement and has been shown to improve performance across a wide range of sports.



Dietary sources = coffee, tea, cola, energy drinks, chocolate, sports foods and supplements



The Food Standards Code sets limits on the amount of caffeine that can be added to cola and energy drinks



Amount of caffeine in sports foods and supplements varies and is regulated by the TGA.



Children under the age of 18 should limit caffeine intake to <2.5mg/kg/day

BENEFITS OF CAFFEINE



NERVOUS SYSTEM ALERTNESS



REDUCE PERCEPTION OF EFFORT



REDUCE PAIN



IMPROVE PERFORMANCE

WHEN TO CONSIDER ITS USE



Endurance sports (>60mins)



Brief sustained high-intensity sports (1-60mins)



Team and intermittent sports



Single efforts involving strength or power



Pre-training energy boost if you are carrying fatigue into a session

Individual performance improvement with caffeine varies - some don't respond, others may have negative effects

CAFFEINE INTAKE GUIDELINES

Many caffeine protocols can achieve the same optimal performance outcome. Start with the lowest efficient dose of 1.5mg/ kg/ BM or ~100mg. There appears to be no further performance benefit for doses above:

3mg / kg BODY MASS / day

E.g. 70kg athlete = 3 x 70 = 210mg

This dose is less likely to induce side effects such as: over stimulation anxiety and interference with fine motor control, that was seen in earlier research using larger caffeine doses.

When do I use it?

- Before exercise
- Spread throughout exercise
- Late in exercise as fatigue develops



The benefits from caffeine occur very soon after intake

Caffeine supplements can be administered as:

- Capsules
- Gum
- Coffee
- Sports/ energy drinks
- Gels
- Dissolvable mouth strips
- Bars
- Aerosol sprays & mouth rinsing [have limited evidence for benefit]



CAFFEINE

FOOD FIRST PHILOSOPHY

- > While tea and coffee are excellent sources of caffeine, the actual caffeine content can vary markedly depending on the length of the pour or infusion period.
- > Caffeine supplements like No-Doz may be preferred when an exact dose of caffeine is required. Pre-workout and fat loss supplements often contain caffeine but may also contain banned substances. Avoid, or only use batch tested varieties.
- > Trial various options in training to personalise your caffeine ingestion plan and consider the:
 - Specific event characteristics
 - Practical considerations of choosing the right product
 - Individual preferences/ characteristics

 Chocolate 1 bar (60g) = 5-50mg caffeine	 Coke (375mL) = 36mg caffeine	 Revsies (1 strip) (original/extra strength) = 40mg/100mg caffeine	 Diet coke (375mL) = 48mg caffeine	 Fat loss supplements [#] = 47-250mg caffeine	 Brewed Coffee (250mL) = 80-280mg caffeine
 Green Tea = 25-110mg caffeine	 Black Tea = 25-110mg caffeine	 Sports foods (e.g.gels) = 8-100mg caffeine	 Red Bull/V (250mL) = 80mg caffeine	 No-Doz tablet (1 tablet) = 100mg caffeine	 Pre-workout supplements [#] = 91-387mg caffeine

[#] Considered high risk supplements. Only use batch-tested supplements.

CONCERNS & CONSIDERATIONS



Abstaining from caffeine days before competition does NOT further enhance the benefits of caffeine in competition.



High doses can cause side effects including: gut upset, poor concentration, confusion, anxiety and disturbed sleep.



Caffeine was removed from the WADA prohibited list in 2004 as performance enhancement was seen with amounts used daily.



Time your caffeine intake away from sleep time, as half still remains in your system 5hrs after ingestion.



Caffeinated drinks are a significant source of fluid and small-moderate amounts have little impact on dehydration in regular users.



Pure or highly concentrated caffeine can be potentially lethal and WADA continues to monitor patterns of misuse.



All supplements have a doping risk of some kind. Some supplements are riskier than others. Athletes should only use batch-tested supplements. The Sport Integrity Australia app provides a list of more than 400 batch-tested products. (www.sportintegrity.gov.au/what-we-do/supplements-sport).

While batch-tested products have the lowest risk of a product containing prohibited substances, they cannot offer you a guarantee. Before engaging in supplement use, you should refer to the specific supplement policies of your sport or institute and seek professional advice from an accredited sports dietitian (www.sportsdietitians.com.au). Athletes are reminded that they are responsible for all substances that enter their body under the 'strict liability' rules of the World Anti-Doping Code.