AIS SPORTS 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/dav

BENEFITS OF CAFFEINE



NERVOUS SYSTEM ALERTNESS







WHEN TO CONSIDER ITS USE



Endurance sports (>60mins)



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

Single efforts involving strength or power

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

> The benefits from caffeine occur very

soon after intake

Team and intermittent sports

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

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



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

Caffeine supplements can be administered as:

- Capsules \square Gum
- Coffee
- \square Gels
- \square Bars

 \square

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- \square Sports/ energy drinks
- \square Dissolvable mouth strips
 - Aerosol sprays & mouth rinsing \mathbf{X} (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

Green Tea

= 25-110mg caffeine

Coke [375mL] = 36g caffeine

Black Tea

= 25-110mg caffeine



Sports foods (e.g.gels)

Revvies (1 strip) [original/extra strength]

= 40mg/100mg caffeine

= 8-100mg caffeine





Diet coke (375mL)

= 48mg caffeine















Fat loss supplements"

= 47-250mg caffeine



= 91-387mg caffeine

Brewed Coffee (250mL)

= 80-280mg caffeine

Red Bull/V (250mL) No-Doz tablet (1 tablet) Pre-workout supplements = 80mg caffeine = 100mg caffeine

 $^{\#}$ Considered high risk supplements. Only use batch-tested supplements.

High doses can cause side effects including:

gut upset, poor concentration, confusion,

Time your caffeine intake away from sleep

anxiety and disturbed sleep.

CONCERNS & CONSIDERATIONS



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



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



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.







ACTAS





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