

## CAFFEINE - Performance Enhancement or Hindrance?

*Caffeine just may be the most widely used drug in North America!*

Athletes have taken advantage of the energy boosting effect of caffeine for years - to the point that caffeine's well recognized stimulant effects were at one time put on the list of banned drugs. Many dieters have used caffeine pills to mask hunger that comes with low calorie diets or to shed body weight via the diuretic effect. Anyone who has needed pain relief has most likely used an over-the-counter analgesic which may likely contain caffeine as an ingredient. Students drink caffeine loaded soda and coffee by the liter to help pull all-nighters while studying for exams. All too many of us depend on that java jolt first thing in the morning to get going. So, is caffeine the way to go for that competitive edge?

**Caffeine is both naturally occurring and synthetically made.** It is found in or added to many foods and beverages consumed every day. Common sources include coffee, tea, cola beverages, "energy" drinks, chocolate, more than 1000 over-the-counter drugs as well as prescription drugs, kola nuts and guarana, and over-the-counter dietary supplements/stimulants targeted at athletes.

**Caffeine is a stimulant** which has been scientifically shown to increase heart rate and blood pressure, thereby increasing alertness and enhance performance of certain tasks when consumed in small doses. Endurance athletes have used caffeine as a glycogen sparing agent due to caffeine's ability to break down fat for energy in the first 15 minutes of

exercise. Therefore greater concentration of muscle glycogen is present later on.

For most people, moderate intakes of caffeine - 200-300 milligrams (mg) a day - do not appear harmful. However, excessive intakes of caffeine - greater than 500 mg/day (or smaller doses in caffeine sensitive individuals) may experience *irritability, muscle tremors, nausea, nervousness, anxiety, insomnia, headaches and diarrhea*. **Not one of these side effects are good for an athlete's performance during training and competition.** It is important to note that individuals consuming the same amount of caffeine can have totally different reactions - good or bad. Although caffeine is now permitted in sport, the potential side effects and health risks need to be considered.

### **To Caffeinate or Not to Caffeinate...**

Caffeine has been noted for its diuretic effect. It has been suggested that 4% dehydration equals 20% of performance lost. Dehydration can lead to incoordination, increased heart rate, blurred vision, muscle cramping and over heating of the body...heat stroke. Other potentially undesirable results of over-consumption of caffeine may include decreased iron and calcium absorption. Both nutrients are vital for an athlete's performance.

### **Is caffeine performance enhancing?**

**Potentially. Health or adverse risks?**

**Can be.** Most benefits have been seen in athletes who are not regular consumers of caffeine and taken in small doses prior to the event. Since everyone's tolerance to this drug varies, it is a risk you need to decide is worth it or not. Whatever you

choose to do, make sure you are informed.  
Read labels and use resources such as the  
Canadian Centre for Ethics in Sport,

Health Canada, Dietitians of Canada,  
Medline Plus, or the Mayo Clinic.

### Caffeine Content of Common Foods...

<u>Source</u>	<u>Caffeine Content (milligrams)</u>
<b>COFFEE</b>	
Plain, brewed, 8 oz	135
Instant, 8 oz	95
Espresso, 1 fluid oz	30-50
Flavored, 8 oz	25-100
Decaffeinated, brewed, 8 oz	5
Decaffeinated, instant, 8 oz	3
Starbucks' Coffee Grande, 16 oz	259
<b>TEA</b>	
Black, 8 oz	40-70
Green Tea, 8 oz	25-40
Decaffeinated, black, 8 oz	4
Nestea, sweetened/unsweetened, 12 oz	26
Lipton Brisk Iced Tea, all varieties, 12 oz	9
<b>SOFT DRINKS (12 oz)</b>	
7-Up	0
A&W Crème Soda	29
Coca Cola Classic	34
Code Red Mountain Dew	55
Diet Coke	45
Dr. Pepper	41
Pepsi-Cola	37
Diet Pepsi-Cola	36
Mello Yello, Diet Mello Yello	51
Mountain Dew/Diet Mountain Dew	55
Sprite/Diet Sprite	0
Tab	47
<b>SPORTS/ENERGY DRINKS</b>	
Red Bull, 8.5 oz	80 (115.5 mg/12 oz)
SoBe Adrenaline Rush, 8.3 oz	79 (114.2 mg/12 oz)
SoBe No Fear, 16 oz	158
<b>FOOD SOURCES</b>	
Milk Chocolate (1 oz)	1-15
Dark Chocolate (1 oz)	5-35
Hershey Bar (1.5 oz/ 1 bar)	10
Hot Chocolate, 8 oz	5
Dannon Light Cappuccino Yogourt, 8 oz	< 1
Yoplait Café Au Lait Yogourt, 6 oz	5
Haagen-Dazs Coffee Frozen Yogourt, fat free (1 cup)	40
Ben & Jerry's No Fat Coffee Fudge Frozen Yogourt ( 1 cup)	85

In the end, you must consider your health, performance, and ethical standards. Remember that too much of a good thing can lead to be a bad thing! The keys to high energy performance are always **proper rest, proper training and proper nutrition.**

(Reference: Health Canada, Mayo Clinic, Peak Performance, Nutrition for Health, Fitness and Sport, 6<sup>th</sup> ed., U.S. Food & Drug Administration, American Dietetic Association)

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