

# Red Bull! It will give you wings

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Dear Prof Yoga Coopoo, Phd Board Member, SA Institute for Drug-Free Sport

Red Bull is one of the latest energy drinks that athletes have flocked to in search of that magic formula to enhance performance. The drink popularized by the Rave culture to party all night long also carries with it an air of intrigue in sport. Athletes who have been selected for drug testing at events have been apt to "declare" Red Bull under the list of "Medications taken", if it was consumed that day. Recently, at a junior SA Championship, adolescents were witnessed consuming Red Bull in a toilet, as if it were some illicit drink.

So what is the appeal behind this drink?

Red Bull is a non-alcoholic stimulating drink containing:

Taurine, a natural amino acid which is useful for protein synthesis.

Glucuronolactone, a natural substance which eliminates endogenic and exogenic toxins from the body.

Caffeine, a stimulant.

Vitamins, flavourants, glucose and sucrose.

The ingredient of special appeal to athletes is the Caffeine. This substance is on the IOC list of prohibited substances. A concentration greater than 12 micrograms per millilitre of caffeine in an urine sample constitutes a doping offence. To achieve this concentration one would have to

consume, two to three hours before an urine sample is collected, between...9 – 11 cans of cola, or 2 – 6 cans of Red Bull!! The caffeine levels would peak within 45 – 60 minutes depending on the individual's metabolism. The concentration of caffeine in the urine is also dependant on the individual's weight, metabolic rate and recently digested food in the body.

The potential performance-enhancing effects of this high concentration of caffeine in the urine may be beneficial for individuals engaging in endurance events such as marathon running and road cycling! During these activities caffeine tends to increase utilization of fatty acids for energy and has a "sparing" effect on carbohydrate (primary energy source) utilization, thereby increasing the ability to sustain exercise during these activities.

Documented research has indicated no performance-enhancing benefits of caffeine ingestion for activities involving strength and/or power, such as sprints or events less than 30 seconds. The performance limiting aspect of caffeine ingestion for endurance events is that it stimulates the formation or urine the removal of water from the body. Dehydration is therefore a distinct possibility for the distance runner , which can be compounded when competing in hot and humid conditions. The probable popularity of Red Bull among athletes may be all myths surrounding the ingestion of caffeine and the consequent performance enhancing effects. One should also not discount the allure of the company's advertising slogan: "Red Bull gives you wiings."

Bibliography: The ABSA Coaching Journal, Volume 2, An ASA development project, May 1999