

# THE BUZZ ON ENERGY DRINKS

Drug free!

The consumption of “energy drinks” containing substances such as caffeine and guarana is increasing rapidly with their growing popularity. A recent Australian survey found that 27% of boys aged 8-12 years had consumed these energy drinks in the 2 week period prior to the survey.<sup>1</sup>

## WHAT DO THESE DRINKS CONTAIN?

Energy drinks usually contain ingredients such as:

- Caffeine:** The typical energy drink provides about 80mg of caffeine per can (although this varies between brands). This is about the same as the amount of caffeine provided by an average strength cup of instant coffee, and about twice the amount in a cup of tea or can of cola soft drink.
- Guarana:** Guarana is a caffeine-containing extract from a South American plant. It is the main source of caffeine present in these drinks.
- Sugar:** The amount of sugar in energy drinks is usually much higher (10-12%) than in “sports drinks” (6-8%). Although sugar provides a quick source of energy, too much can lead to dental problems and obesity. Higher levels of sugar can also slow the body’s absorption of water, which makes these drinks unsuitable for use during or after exercise.
- Protein:** Proteins such as taurine are sometimes added to these drinks. As the typical Australian diet is relatively high in protein, few people are likely to benefit from their inclusion.

## WHAT ARE THE HEALTH EFFECTS OF THE CAFFEINE IN THESE DRINKS?

Caffeine is a ‘stimulant’ that speeds up parts of the body and brain. It increases heart rate, blood pressure and body temperature. In very high doses it can cause hand tremors and changes in the hearts rhythm. As a diuretic, it can also cause dehydration. Too much caffeine can have a negative effect both on sports performance and on health.

The typical consumers of energy drinks are young people. Although many parents would not allow their young children to drink coffee or tea, many are not aware of the quantity of caffeine in these drinks. Young children can suffer disturbed sleeping patterns, bed-wetting and anxiety from the caffeine in just one can of energy drink. It is clear that pre-teenage children should not consume high caffeine drinks and their use by people in their early teens should also be discouraged.

Some people are especially sensitive to caffeine, showing symptoms such as tremors, sleep disturbances and stomach upsets following even small doses of caffeine. The following people should avoid the high caffeine intake from energy drinks:

- young children
- caffeine-sensitive people
- people with heart disease
- pregnant women (especially in the first 3 months of pregnancy).



Some people choose to mix energy drinks with alcohol. Caffeine and alcohol can both cause dehydration even when used on their own. When combined, the consumer is more likely to suffer the effects of dehydration including fainting, dizziness, headaches, nausea and loss of coordination and balance.

## **DO THESE DRINKS REALLY PROVIDE A 'BOOST' TO SPORTS PERFORMANCE?**

There is no doubt that caffeine enhances sports performance in elite athletes. As such the International Olympic Committee (IOC) has banned its use above a certain level (as detected in the athlete's urine). Elite athletes therefore need to be especially careful with their caffeine intake, particularly around competition time.

As with any drug, the use of caffeine to boost sports performance is considered to be cheating and against the ethics of sport. However for most people the greater concern is for the risks associated with its use before or during physical activity.

As a stimulant, caffeine increases the heart rate and may cause irregular or abnormal heartbeats. Stimulants also contribute to a loss of coordination and balance, and affect the body's ability to maintain a regular temperature. This, combined with the dehydrating effect of the caffeine, may place the athlete at a greater risk of suffering from heat illness, particularly when exercising in warmer weather.

### **SUMMARY**

Energy drinks are a source of caffeine, which although potentially harmful to some people, can safely be consumed in moderation. However, consuming too much caffeine from any source shortly before physical activity, is more likely to have a negative effect on performance for the average athlete.

Anyone using caffeine prior to exercise should be aware of the potential side effects and should aim to prevent these by moderating their intake and drinking plenty of water.

### **FOR MORE INFORMATION:**

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### **REFERENCE:**

1. O'Dea J & Rawstone P. Consumption of dietary supplements and energy drinks by schoolchildren. Med J Aust. 2000 Oct 2; 173(7): 389.

**This fact sheet is based on an FAQ compiled by a group of professional nutritionists and dietitians who subscribe to the Nutritionists Network ('NutNet') listserv.**

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