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## Caffeine

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### Summary

- Caffeine is a drug that stimulates (increases the activity of) your brain and nervous system.
- Caffeine is found in many drinks such as coffee, tea, soft drinks and energy drinks. Chocolate also contains caffeine.
- Energy drinks often have more caffeine and sugar than soft drinks.
- Pregnant women, athletes and children should limit their caffeine intake.

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Caffeine is naturally found in the leaves and fruits of some plants. It is in coffee, black and green tea, cocoa, cola soft drinks and energy drinks. It may also be in chocolate bars, energy bars and some non-prescription medications, such as cough syrup and slimming tablets. Guarana (a popular additive in energy drinks) is also a natural source of caffeine.

Caffeine is a stimulant, which means it increases activity in your brain and nervous system. It also increases the circulation of chemicals such as cortisol and adrenaline in the body.

In small doses, caffeine can make you feel refreshed and focused. In large doses, caffeine can make you feel anxious and have difficulty sleeping.

Like many other drugs, it's possible to develop a tolerance to caffeine, which means you need bigger and bigger doses to achieve the same effect.

### What does caffeine do to your body?

Caffeine is well absorbed by the body, and the short-term effects are usually experienced between 5 and 30 minutes after having it. These effects can include increased breathing and heart rate, and increased mental alertness and physical energy. Depending on the individual, these effects can last up to 12 hours.

Some of the signs and symptoms of having too much caffeine include:

- a rise in body temperature
- frequent urination
- dehydration
- dizziness and headaches
- rapid heartbeat (palpitations)
- restlessness and excitability
- anxiety and irritability
- trembling hands
- sleeplessness
- first feeling energetic but then having an even greater feeling of tiredness.

### How much caffeine is okay each day?

How you react to caffeine depends on your body mass, health and metabolism. It also depends on whether your body is used to getting regular doses of caffeine and how much you have in one serving. Research suggests that 400mg per day or less is an **acceptable dose of caffeine** for the general population.

Approximate caffeine levels per serve include:

- chocolate drinks: 5–10mg per 250ml
- instant coffee: 80–120mg per 250ml
- drip or percolated coffee: 150–240mg per 250ml
- espresso coffees such as espresso or latte: 105–110mg per 250ml
- decaffeinated coffee: 2–6mg per 250ml
- black tea: 65–105mg per 250ml
- cola drinks: 40–49mg per 375ml
- Red Bull energy drink: 80mg per 250 ml
- energy drink: 160mg per 250ml
- dark chocolate bar: 40–50mg per 55g serve
- milk chocolate bar – 10mg per 50g serve
- guarana: can contain up to 100mg per 1g of guarana
- caffeine tablets such as No-Doz – 100mg per tablet.

### Energy drinks and caffeine

Energy drinks contain caffeine, as well as ingredients such as taurine and guarana (a natural source of caffeine). Energy drinks do not hydrate and should not be confused with sports drinks.

The caffeine and sugar content of energy drinks is high. In fact it is often higher than in **soft drinks**. The levels of caffeine in energy drinks vary between brands, so it is important to read the label before having them.

Children and pregnant women should avoid drinking energy drinks.

### Caffeine dependency and withdrawal

Like many other drugs, it's possible to build up a tolerance to caffeine. This means you become used to its effects on your body and need to take larger amounts to achieve the same results. Over time, you may become physically and psychologically dependent on caffeine to function effectively.

If you are dependent on caffeine and you stop having it, you may experience withdrawal symptoms. These may include:

- fatigue
- crankiness
- persistent headache
- sweating
- muscle pain
- anxiety.

Symptoms of caffeine withdrawal may begin within 12 to 24 hours and can last about seven days.

The easiest way for you to break caffeine dependence is to reduce the amount you're having gradually. This gives your nervous system time to adapt to functioning without the drug.

### Children, pregnant women, athletes and caffeine

Some people who need to take special care with caffeine include:

- **children** – currently there are no guidelines for children's intake of caffeine. Caffeine intake should be investigated if children are showing symptoms of irritability, inability to sleep, interrupted sleep or stomach upsets. Remember that caffeine is present in many soft drinks and chocolate, not just coffee and tea. The consumption of energy drinks should also be closely monitored
- **pregnant women** – if you are **pregnant**, limit your caffeine intake to 200mg per day or less, or avoid it altogether. Having high amounts of caffeine may increase your risk of miscarriage, experiencing a difficult birth and having a baby with a low birth weight
- **athletes** – caffeine is not classified as a prohibited substance under the World Anti-Doping Code 2015 Prohibited List. The Australian Institute of Sport lists it as a Group A substance, which means it's 'supported

for use in specific situations in sport' and 'provided or permitted for use by some athletes according to best practice protocols'.

However, check the anti-doping rules of your particular sporting code to make sure caffeine is not a restricted drug for the sport you play.

### **Where to get help**

- Your GP (doctor)
- Pharmacist.

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