Caffeine

Summary

- Caffeine is a stimulant drug that acts on the brain and nervous system.
- Like many other drugs, it is possible to become dependent on caffeine.
- Pregnant women, athletes and children should limit their intake of caffeine.
- Energy drinks typically have more caffeine and sugar than soft drinks.

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

As a stimulant, caffeine acts on the brain and nervous system. In small doses, it can make you feel refreshed and focused. In large doses, you are likely to feel anxious and have difficulty sleeping.

Like many other drugs, it is possible to develop a tolerance to caffeine, which means ever-greater doses are needed to achieve the same effect.

Short burst of energy from caffeine

Caffeine increases the circulation of chemicals such as cortisol and adrenaline in the body. It is classed as a 'stimulant' and increases activity in the brain and central nervous system.

Caffeine is well absorbed in the human body, and the short-term effects are usually experienced about 5–30 minutes after consumption. These 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 excessive amounts of caffeine intake include:

- a rise in body temperature
- frequent urination
- dehydration
- dizziness and headaches
- after the energy burst, an even greater feeling of fatigue
- rapid heartbeat (palpitations)
- restlessness and excitability
- anxiety and irritability
- trembling hands
- sleeplessness.

Addiction and withdrawal from caffeine

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

Withdrawal symptoms vary, but can include fatigue, crankiness, a persistent headache, sweating, muscle pain, and sometimes anxiety. Symptoms may begin within 12–24 hours, and can last approximately seven days.
The easiest way to break caffeine dependence is to cut down gradually, giving your nervous system time to adapt to functioning without the drug.

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

Approximate caffeine levels per serve include:

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

**Energy drinks with 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.

Energy drinks are of concern due to their high caffeine and sugar content. The levels of caffeine in energy drinks vary between brands, so it is important to read the label before consuming them. Children and pregnant women should avoid energy drinks.

**Special considerations for caffeine**
Some people who need to take special care with caffeine include:

- **pregnant women** – limit your caffeine intake to 200 mg per day or less, or avoid it altogether. Consuming 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, and is listed as a Group A substance by The Australian Institute of Sport – which means it is 'supported for use in specific situations in sport' and 'Provided or permitted for use by some athletes according to best practice protocols' However, you should check the anti-doping rules of your particular sporting code to ensure caffeine is not specified as a restricted drug for that sport.
- **children** – at present, 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.

**Where to get help**

- **Your GP (doctor)**
- **Pharmacist**
- **Dietitians Association of Australia** Tel. 1800 812 942

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