

CAFFEINE

WHAT YOU NEED TO KNOW



Australian Government
Department of Health

WHAT IS CAFFEINE?

Caffeine is a central nervous system stimulant and a naturally-occurring substance that can be found in the seeds, nuts and leaves of various plants, including coffee beans, tea leaves, cocoa beans, kola nuts and guarana seeds.

WHAT ARE ENERGY DRINKS AND ENERGY SHOTS?

Formulated energy drinks are non-alcoholic beverages containing caffeine ('caffeinated').

Energy drinks typically contain the following ingredients in varying amounts:

- Caffeine – the legal limit for a standard 250ml energy drink in Australia is equivalent to a cup of coffee
- Taurine – an amino acid naturally present in meat, fish and milk
- Glucuronolactone – a natural substance produced by the metabolism of glucose in the human liver
- Herbal extracts (eg, guarana, ginseng)
- Water-soluble vitamins (eg, vitamins B3, B5, B6, and B12)
- Sweetening agents (eg, glucose, sucrose).

Energy shots are a concentrated form of energy drink, which contain caffeine and other substances similar to energy drinks, but in small volumes (typically 50-60mls).

HOW IS CAFFEINE CONSUMED?

Caffeine is typically consumed orally in food and drinks such as coffee, tea, energy drinks, and chocolate. Caffeine is also available in tablet form and may also be present in prescription and over-the-counter medications, including some cough medicines, weight-loss products and pain relievers.

WHAT ARE THE EFFECTS?

The effects of caffeine are typically experienced within 30 minutes after consuming and can last up to six hours, although there may be individual variations in the onset and duration of effects. For example, caffeine stays active in the body for a longer duration in babies, pregnant women and the elderly.

SHORT-TERM EFFECTS

For small doses of caffeine (for example, 100-200 mg: approximately one to two cups of coffee) the short-term effects include:

- needing to urinate more often
- feeling more alert and active
- higher body temperature
- faster breathing and heart rate
- increased production of stomach acid.

Children and young people who consume energy drinks containing caffeine may also suffer from sleep problems, bed-wetting and anxiety.

LONG-TERM EFFECTS

Regular, heavy use of caffeine (more than 600 mg per day: approximately four cups of coffee/strong tea per day) may eventually lead to:

- bone loss (osteoporosis) in post-menopausal women
- cardiovascular problems
- heartburn
- ulcers
- difficulty sleeping (insomnia)
- anxiety
- depression.

USING CAFFEINE WITH ALCOHOL AND OTHER DRUGS

Caffeine may interact with other drugs, including over-the-counter and prescribed medications, and may increase the effects of other psychoactive substances. Conversely, other drugs can prolong the time that caffeine is active in the body and increase its stimulatory effects.

People often use energy drinks with alcohol to intensify and prolong the effects of alcohol and to remain awake and alert in order to keep drinking and socialising. People who consume energy drinks with alcohol report increased stimulation and alertness, reduced fatigue, and the ability to consume more alcohol, particularly over long periods of time. While caffeine may mask the sedative effects of alcohol (drowsiness, falling asleep) it does not reduce the level of alcohol intoxication or alcohol-induced impairment in cognitive and motor functioning. Research has found that the consumption of energy drinks with alcohol is associated with greater alcohol consumption and an increased likelihood of alcohol-related harm.

IS CAFFEINE ADDICTIVE?

In people who consume caffeine on a regular (daily) basis, ceasing consumption can result in caffeine withdrawal syndrome. Withdrawal symptoms usually start within 12- 24 hours after the last dose, but can start within six hours for people who consume a lot of caffeine regularly and as late as 36 hours. The duration of symptoms is typically between two and seven days; occasionally even longer for people who consume large amounts of caffeine.

These symptoms can include:

- headache
- fatigue (tiredness, lethargy)
- drowsiness (sleepiness, yawning)
- nausea
- depression
- difficulty concentrating
- inability to think clearly
- irritability
- anxiety
- sweating
- muscle pains and weakness.



WHAT ARE THE RISKS? WHAT IS 'CAFFEINE TOXICITY'?

Although caffeine has positive effects, such as increasing alertness, energy and concentration, and healthy people can tolerate caffeine in moderation, consuming large amounts of caffeine can have a range of adverse effects that are collectively known as 'caffeine toxicity'. The symptoms of caffeine toxicity vary in their severity, and how commonly they occur, and include:

- nervousness
- anxiety
- irritability
- agitation
- insomnia
- headache
- rapid and/or irregular heart rate
- rapid breathing
- gastrointestinal disturbances (abdominal pain, diarrhoea, nausea/vomiting)
- muscle tremors/twitches
- delirium (confusion, hallucinations, excitability)
- headaches.

Seizures associated with caffeine toxicity have also been reported. For people who already have heart problems or anxiety disorders, large amounts of caffeine may make these problems worse. While caffeine toxicity is rarely fatal, very high doses of caffeine are dangerous and, while uncommon, sudden death due to caffeine toxicity has been reported.

HOW MUCH CAFFEINE IS SAFE?

There is currently no uniformly recognised safe level of caffeine consumption, although a moderate intake of caffeine of up to 400mg per day for healthy adults without pre-existing medical conditions – equivalent to about 4 cups of coffee – is generally considered safe.

It is recommended that children and adolescents should limit their intake of caffeinated drinks. The caffeine intake for children should not exceed 100 mg per day (about one cup of coffee or two cans of cola) and, for adolescents, should not exceed 2.5mg per kilogram of body weight per day (i.e. 125mg for an adolescent who weighs approximately 50kg).



FOR MORE INFORMATION

We have listed some of the national telephone helplines and websites below.

For free and confidential advice about alcohol and other drugs, call the

National Alcohol and Other Drug Hotline

1800 250 015

It will automatically direct you to the Alcohol and Drug Information Service in your state or territory. These local alcohol and other drug telephone services offer support, information, counselling and referral to services.

Australian Drug Foundation

Provides information about drugs and links to services in each state and territory

www.adf.org.au

DrugInfo Line

Provides information about drugs and alcohol

Open 9am–5pm, Monday to Friday **1300 85 85 84** or **03 8672 5983**

Or visit **www.druginfo.adf.org.au**

Just Ask Us

Provides information about drugs, alcohol, health and well-being

www.justaskus.org.au

Kids Helpline

Free, private and confidential telephone and online counselling service for young people aged

5–25 years Open 24 Hours **1800 55 1800**

Lifeline

24 hour crisis line **131114**

Also available is one-on-one chatlines for crisis support, visit

www.lifeline.org.au/Find-Help/Online-Services/crisis-chat

Counselling Online

Free, confidential counselling service for people using drugs, their families and friends

www.counsellingonline.org.au

National Drugs Campaign

Australian Government website provides information about illicit drugs and campaign resources

www.australia.gov.au/drugs

Family Drug Support

For families and friends of people who use drugs or alcohol **1300 368 186**

<http://www.fds.org.au/>

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