Caffeine and Health

Caffeine is a natural chemical stimulant that can also be created synthetically for consumption.

Natural caffeine is found in coffee beans, tea leaves, cacao beans, guarana berries, and yerba maté leaves. Caffeine preparations can be added to drinks, food, tablets, or powdered supplements. In the US, about 85% of adults consume caffeine daily, and average intake is 135 mg per day (equivalent to 12 oz of coffee). The most common source of caffeine is coffee for adults and soft drinks and tea for teenagers.

How Does the Body Absorb and Metabolize Caffeine?
Caffeine is absorbed into the bloodstream within 45 minutes after ingestion. Metabolism of caffeine varies among individuals, but its duration of action is typically 2.5 to 4.5 hours. Pregnancy and some medications (oral contraceptives, certain antidepressants, cardiovascular medications, and antibiotics) slow caffeine removal from the bloodstream. In contrast, cigarette smoking increases the rate of caffeine removal from the bloodstream.

Beneficial Effects of Caffeine
Caffeine in moderate doses (40-200 mg) acts within the brain to decrease fatigue, increase alertness, and decrease reaction time. Caffeine also may decrease appetite and slightly reduce weight gain. In moderate doses, caffeine has been associated with decreased risk of depression and suicide in some studies.

Medical Uses of Caffeine
Caffeine is used to treat intermittent pauses in breathing (apnea) in premature infants. Addition of caffeine to commonly prescribed pain relievers (such as acetaminophen) can decrease acute pain from certain conditions, such as migraines.

Common Negative Effects of Caffeine
Caffeine leads to temporary increases in blood pressure in individuals with minimal or no prior use. Caffeine, particularly in higher doses, can cause anxiety, as well as difficulty falling asleep if consumed late in the day. Abrupt cessation of caffeine in regular users may result in withdrawal symptoms, which typically peak at 1 to 2 days and include headache, fatigue, and depressed mood. Because higher caffeine intake in pregnancy is associated with lower infant birth weights, caffeine consumption should not exceed 200 mg per day during pregnancy.

Effects of Caffeine in Very High Doses
Ingestion of very high doses of caffeine (1200 mg or more) can cause agitation, severe anxiety, elevated blood pressure, and palpitations. This may occur with overuse of caffeine tablets or supplements in liquid form (energy drinks) or powdered form. Consuming caffeinated energy drinks or energy shots together with alcohol is dangerous and has resulted in deaths.

Possible Health Benefits of Drinking Coffee
Some studies have shown decreased mortality associated with drinking 2 to 5 standard cups of caffeinated or decaffeinated coffee per day. In some reports, regular consumption of both caffeinated and decaffeinated coffee has been associated with a reduced risk of type 2 diabetes and endometrial cancer. In other reports, both caffeinated and decaffeinated coffee consumption was associated with lower risk of liver cancer, gallstones, and gallbladder cancers, but the potential benefit was stronger with caffeinated coffee. Consumption of caffeinated coffee has also been associated with a reduced risk of Parkinson disease and liver cirrhosis.

FOR MORE INFORMATION
National Library of Medicine medlineplus.gov/caffeine.html

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