# The Truth about Caffeine: How Coffee Affects our Bodies [C2]

Sarà per la sveglia mattutina, per il sapore intenso, o per l'immagine di bevanda cult... comunque non ci sono dubbi: il caffè dà un tono inconfondibile alla nostra quotidianità. Ma sappiamo bene che può renderci dipendenti. Ecco una breve rassegna su quello che dice la scienza (per ora) sugli effetti del consumo di caffeina.

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Coffee. **Go-juice**. Liquid gold. The one with all the psychoactive properties. Once used by Sufi mystics as an **aid** to concentration during religious rituals, it's now one of the most ubiquitous drinks on the planet: we **get through** about 2**bn** cups a day. It is also one of the most valued and consumed drinks. One particularly **sought-after** **blend**, Black Ivory, which is produced by encouraging elephants to digest **arabica berries**, **retails** at more than £2,000 a kilogram, while coffee-making championships attract thousands of spectators. But what does it actually do to you? You might have a vague idea that caffeine wakes you up, **wrecks** your sleep and can **aid** sporting **performance**, but do you know how much you can drink safely? Considering that a typical americano contains more than a hundred biologically active ingredients other than caffeine, what do you know about the drug you are

glugging two or three times a day? What is happening inside your body when you have a double espresso in the morning? The effects may start before you even take a sip. Just inhaling the scent of coffee can improve memory and stimulate alertness, according to a 2019 study. Another study, from 2018, found that subjects did better in tests of analytical reasoning after a whiff of the good stuff. That said, the researchers in the 2018 study suggested that the effect probably had a placebo element, with the expectation of improved performance proving at least partly responsible. The actual effects really kick in some time after you start drinking. While a 2008 study found that the effects of a cup of coffee can occur just ten minutes after ingestion, it said peak caffeine concentration in the blood occurred after forty-five minutes. Caffeine acts as a central nervous system stimulant — making you more alert and focused, but potentially also more irritable and anxious. It's all to do with your body's adenosine receptors, which help to regulate your heart rate, blood flow and sleep-wake cycles. When adenosine — an organic compound that occurs naturally in your body— binds to these receptors, it triggers physiological responses that lead to a decrease in cellular activity, often promoting drowsiness and sleep. Caffeine can fool your nerve cells and bind to these instead, preventing adenosine from doing its thing. This promotes increased alertness, while also allowing the brain's stimulating neurotransmitters (such as dopamine) to run wild. This makes it a mood-boost")a")er for many people, but can also lead to anxiety after high doses. While your body adapts to caffeine's effects after a while, different people can have very different responses to the same amount of it. Caffeine has a half-life of about six hours, which means that if you have your final espresso at 4pm, half of the caffeine is still in your system at 10pm, when you should be winding down for the night. Plenty of people subscribe to the idea of a caffeine curfew— stopping at 2pm or 3pm, for instance — but that doesn't mean it's open season in the morning. A few people suggest that excess intake may be linked to increased cancer risk or heart problems, while others say a few cups a day is fine. One large study said: "Coffee consumption seems generally safe within usual levels of intake, at three to four cups a day, and more likely to benefit health than harm." Another study found that coffee was associated with a probable decreased risk of

several forms of cancer, alongside cardiovascular disease, Parkinson's disease and type 2 diabetes.

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But what about coffee's other long-term benefits? There is some evidence that its mood-elevating effects can be beneficial over the long term. In a 2016 study, caffeine consumption was found to **decrease** the risk of depression. Coffee can also help with **burning fat**, but it's most effective in conjunction with exercise. So having a quick cup before your morning **workout** does more than just give you an energy **boost**")a"). Darker **roasts**, as well as being lower in caffeine, tend to contain fewer antioxidants and lower levels of chlorogenic acid, a compound that can protect the body against inflammation and cell damage. When you **grind** the **beans** doesn't matter (unless you prefer that fresh-ground flavour), but how much you **grind** them probably does — a **finer grind releases** more polyphenols, giving fine-ground **brews** slightly more beneficial effects. Also coffee filtered through paper may be healthier than coffee made with a metal filter or no filter at all. A study published in 2020 that followed more than five hundred thousand healthy coffee drinkers for about two decades found that those who drank filtered coffee (as opposed to just **boiling** ground **beans** and drinking the water) had lower rates of arterial disease and death. The study's authors concluded that the substances in coffee that can **raise LDL** cholesterol — the bad kind — can be **removed** using a filter. The brewing temperature doesn't matter that much; while some purists will claim that pouring boiled water directly onto your coffee grounds will "burn" the flavour, it seems to have little effect on the beneficial compounds inside. Obviously, if you drink half a **pint** of milk and two sugars in your latte, it increases the calorie count. So, what is the prescription? Up to three cups a day is probably fine, filtered if possible, dark roasted if you are trying to cut down on caffeine, but light if you are trying to benefit from the other ingredients. **Space them out** in the morning and try to leave a decent

**gap** after your last one before you go to bed. Published in The Guardian on February 15, 2023. Reprinted with permission.

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# Glossary

- **scent** = aroma
- **whiff** = annusata
- **grind** = macinare
- **beans** = chicchi
- **bn** = miliardi
- **arabica berries** = bacche di arabica
- **performance** = prestazione
- **peak** = picco
- **decrease** = diminuzione
- **winding down** = calmarsi
- **subscribe to the idea** = avvallare un'idea
- **burning fat** = bruciare grassi
- **removed** = eliminare
- **sought-after** = ambita
- **kick in** = fare effetto
- **open season** = via libera
- **intake** = consumo
- **finer** = più fine
- **releases** = rilasciare
- **boiling** = bollire
- **Go-juice** = carburante
- **blend** = miscela
- **sleep-wake cycles** = cicli di sonno-veglia
- **fool** = ingannare
- **to run wild** = scatenarsi all'impazzata
- **half-life** = vita media
- **harm** = nuocere
- **aid** = aiuto
- **get through** = ingerire, consumare
- **even take a sip** = bere un sorso
- **blood flow** = circolazione sanguigna
- **triggers** = innescare
- **boost** = stimolo, spinta

- **retails** = vendere al dettaglio
- **heart rate** = frequenza cardiaca
- **brews** = infusi
- **Space them out** = distanziare
- **wrecks** = rovinare
- **focused** = concentrato
- **curfew** = coprifuoco
- **roasts** = tostature
- **raise** = far aumentare
- **LDL** = lipoproteine a bassa densità (low density lipoproteins)
- **glugging** = bere trangugiando
- **that occurs naturally in your body** = naturalmente presente nel corpo
- **binds** = legarsi
- **drowsiness** = sonnolenza
- **mood-booster** = stimolante dell'umore
- **workout** = esercizio fisico
- **pint** = pinta (568 ml)
- **gap** = intervallo