

# Caffeine

## Body & health

How it works, how long it lasts, and what a sensible ceiling is.

A stimulant that blocks adenosine, the molecule that accumulates through the day and signals sleepiness. It does not remove tiredness; it hides it.

### HALF-LIFE

~5 h

### ADULT CEILING

~400 mg

### COFFEE CUP

~95 mg

- Half-life is about 5 hours, and varies widely between people.
- Common guidance: up to 400 mg a day for most adults.
- Pregnancy guidance is usually 200 mg a day.
- Filter coffee: roughly 95 mg per cup.
- Tea: roughly 45 mg. Energy drinks: 80–150 mg.
- Tolerance builds; withdrawal headaches are real.

### LOOK FOR IT

A 3 p.m. coffee still has around half its caffeine active at 8 p.m., and a quarter at 1 a.m.

Adenosine keeps accumulating while it is blocked. When the caffeine clears, all of it registers at once.