How Much Caffeine Is in Green Tea?

From the teas.co.uk wiki

> **Green tea caffeine, in short:** Green tea caffeine is a range, not a number: roughly 20 to 45mg a cup, with matcha the high outlier. Why no single figure is reliable, and how to get less.

The short answer is that green tea contains a moderate amount of caffeine, typically less than black tea and well below a strong coffee, but the more useful answer is that no single number exists, and anyone quoting one precise figure is overstating it. This page explains the real range and, more importantly, the things you control that move it.

Last reviewed by the teas.co.uk team in April 2026.

The range

Green tea is true tea (Camellia sinensis), so it always contains caffeine. A typical cup falls in a broad moderate band, generally lower than a comparable cup of black tea, and clearly lower than a typical mug of brewed coffee, but well above zero. The useful framing is a range, not a point: two cups of "green tea" can differ considerably, and that variability is the actually useful information rather than a tidy milligram claim.

Why no single number is reliable

The amount in your cup depends on factors that can swing it a long way. Leaf type and grade: younger, bud-rich, shaded leaves (gyokuro, fine Japanese greens) are higher; older, larger leaf lower. The cultivar and growing conditions matter. And, above all, how you brew it: more leaf, hotter water and a longer steep all extract more caffeine; a small amount of leaf, cooler water and a short steep extract less. Because green tea is brewed cooler and shorter than black tea by good practice, a correctly brewed green often delivers less caffeine than the same leaf would if abused with boiling water, which is part of why "green tea is lower caffeine" is loosely true but not guaranteed.

The matcha exception

One clear clarification: matcha is green tea but behaves differently, because you whisk and drink the whole powdered leaf rather than steeping and discarding it, so a serving of matcha is usually more caffeine concentrated than a cup of steeped green tea. If you mean matcha, the answer is "more than ordinary green tea, driven mostly by how much powder you use", which is its own page.

The re-steep point

One detail you can use: caffeine is highly water soluble, so the first one or two infusions carry off a large share of it, and if you re steep green tea the later infusions come out progressively lower. This is a real, reproducible taper (a long multi-steep session gets gentler), but it is a reduction, not a route to zero: the right word is "less", never "none".

How to get less, in practice

If you want green tea's flavour with less caffeine, the effective levers are practical: use a little less leaf, brew cooler and shorter, and drink later re-steeps rather than the first strong one. If you need zero caffeine, green tea is the wrong drink; choose a herbal tisane like rooibos or peppermint instead of pretending green tea can be made caffeine free.

Green tea caffeine by type, at a glance

Type	Rough caffeine per cup
Bancha / kukicha	Low (~10 to 20mg)
Genmaicha	Lower (rice-diluted)
Sencha / gunpowder	Moderate (~20 to 45mg)
Strong/long-brewed green	Higher within range
Matcha (per bowl)	High outlier (~35 to 70mg+, whole leaf)

References and notes

- EFSA Scientific Opinion on the Safety of Caffeine (2015)
- NHS guidance on caffeine

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