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Does caffeine shampoo really work for hair loss?

Caffeine shampoos that stimulate hair growth (if you believe the marketing claims) are becoming more popular – but do they really work and can they cause skin or scalp problems? We ask a consultant dermatologist for her take on the issue.

Question: what is the most commonly used psychoactive drug in the world? A cursory walk down your nearest high street should provide you with the answer. Here's a clue: it is 100% legal in most countries and a majority of adults take it on a daily basis.

If you haven't worked out yet that we're talking about [caffeine](#), maybe a quick hit of said stimulant might help. The word caffeine comes from the German word Kaffee and the French word café – each meaning coffee – and is the everyday name for the stimulant 1,3,7-trimethylxanthine.

In addition to coffee, it is commonly consumed in the form of tea and fizzy drinks (soda), but as well as stimulating brain function – making you feel more alert – and the central nervous system, it is also the key component of a new generation of shampoos that purport to encourage hair growth.

How do caffeine shampoos work?

Studies of human hair follicles show that caffeine increases the amount of cell energy in them by acting against a protein called phosphodiesterase. It has also been shown to increase the protein insulin-like growth factor 1 (IGF1), an important signalling molecule in promoting hair growth.

More specifically, caffeine has been shown to potentially reverse the effects of dihydrotestosterone (DHT), the main hormone involved in common balding.

Are caffeine shampoos proven to promote hair growth?

Impressive claims, but do the majority of caffeine shampoos actually work?

Currently, there is no clinically viable evidence that they have a long-lasting effect on [male pattern baldness](#), which occurs in men who have a sensitivity to DHT, and causes hair follicles in the scalp to weaken and shrink. Caffeine shampoo has not been proven to negate the effects of DHT in the long term.

In 2018, the UK Advertising Standards Authority ruled that caffeine shampoo Alpecin must no longer advertise that it can "help to reduce hair loss" as there was no adequate evidence to support the claim.

The German brand was established following a study in 2007 showing that caffeine caused hair follicles to regrow in a laboratory dish, but there is not enough evidence to prove that caffeine works with hair on the scalp.

Consultant dermatologist Dr Sharon Wong from [London Bridge Hospital](#), part of HCA Healthcare UK, is cautiously optimistic about caffeine shampoos in general but agrees that more research is needed.

"In early stages of genetic hair loss or thinning, caffeine-containing shampoos may be helpful as a supportive treatment in addition to proven and licensed medical treatments for hair loss, such as topical minoxidil and [Propecia](#) [finasteride]," she states.

"Whilst the [results](#) from predominantly lab-based [studies](#) are encouraging, larger randomised, controlled clinical trials on actual patients are required to draw more definitive conclusions."

The caffeine molecule penetrates easily into the hair follicles but it remains questionable as to whether a sufficient concentration of caffeine can be delivered via a shampoo to maximise its potential benefits. The growth-enhancing effects of caffeine are likely to be greater with [leave-on topical caffeine solutions](#), Wong suggests.

"Caffeine shampoos are certainly worth trying as a preventative measure or in addition to medical treatments for hair loss in early stages of common balding for a potential additive effect," she adds. "However, it is not likely to make a difference in more advanced stages of hair thinning."

Potential side-effects and alternative treatments

Side-effects from caffeine shampoos are minimal, according to Wong, although there may be a low risk of transient scalp irritation if people are sensitive to the caffeine or any of the incipient ingredients contained in the shampoo.

She advocates a range of alternatives including pricey laser and hair transplantation procedures, but points out that a well-balanced diet comprising lean proteins, complex carbohydrates, vitamins and minerals, can also help to promote hair growth, and prevent or slow baldness.

Nutritional deficiencies and crash diets are a common cause of hair thinning and shedding, which will exacerbate any co-existent genetic hair loss. A simple blood test will reveal if you are deficient in nutrients such as iron, vitamin D and zinc, and these can be replaced in the form of supplements.

Wong says that low-level laser therapy (LLLT) devices, which come as combs or caps for at-home use, are FDA-approved to treat common balding and would be worthwhile trying in the early stages of thinning/hair loss, but are probably best used in conjunction with licensed medical treatments such as finasteride.

However, be mindful to do your research and choose devices that use medical-grade lasers; many cheaper devices use LEDs which are less effective.

"Hair transplantation is an excellent option to add density to areas of thinning and or to restore the hairline in common balding," Wong adds. "However, it isn't suitable for everyone and you would be strongly advised to see a reputable transplant surgeon to explore this option."

"It still also requires maintenance treatment, even after the surgery, to prevent progression of the balding process."

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