

# It's the A-list skin fad, but can collagen supplements banish lines?

Celebrities are rushing to endorse collagen powders. Health experts aren't so sure, says Anna Maxted



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support and its structure. There are lots of different types of collagen in the body. Type I and type III are the main collagens in the skin. And as we get older, we start to lose collagen — probably from our mid-twenties onwards. Then there's a rapid decline in the first five years after the menopause. A lack of collagen will result in fine lines, wrinkling, sagging of the skin; lack of tissue laxity."

The premise behind supplements, she adds, is that "if you eat collagen it will somehow end up in your skin as a building block to rebuild the bits that you need. There are also newer forms of collagen known as hydrolysed collagen [broken down into smaller molecules, or peptides]. The idea is, these broken bits of collagen trigger your body into thinking that an injury or a wound has taken place and your body's response to that is to produce new collagen, which will be deposited in your skin."

The flaw in this plan is that in whatever form it's consumed — steak or supplement — collagen is broken down into amino acids by the gut, which, Mahto says, "end up going to parts of your body where needed; some might go to your liver, your muscles, some might go to your skin".

Dr Sharad Paul, a skin cancer specialist and a fellow of the Royal Society of Medicine, agrees. "If we consider the premise of collagen powders, these amino acids and proteins are supposed to regenerate skin and joints, but in reality the body sends these to areas it wants to repair, not what we wish for." He adds: "Biology does not care for beauty as much as health."

Paul, the author of *Skin: A Biography and The Genetics of Health*, sees these supplements as the successor to collagen injections. "In skin, collagen forms a scaffold and makes up bones and connective tissue. Because of this collagen injections were tried, but

caused skin allergies and reactions. The molecules are too large to work in creams, so [the beauty] industry came up with powders and the fad developed. At this point, the jury is well and truly out — there's no clear evidence that it has any skin benefit."

This was the experience of Emily Morgan, 41. She says, "I started taking the Khloé Kardashian-backed Dose & Co a few months back, mostly because it was on offer, but also because I don't eat meat and thought the peptides would transform me. Sadly my wrinkles stayed put, but it gave me a really odd, heavy, full feeling. I persisted for a few weeks and then gave up."

Yet online, and often cited, there are clinical trials with impressive-looking results. Mahto says: "Most of the studies we have on collagen supplements are from companies that make them — there's a clear conflict of interest. And even if you took that away, the studies are usually very small, with very poor methodology. When you actually break down the methods and statistics, the results aren't really that convincing."

Professor James Goodwin is the former chief scientist at Age UK and a visiting professor of the physiology of ageing at Loughborough University. "Collagen supplements are unnecessary in my view," he says, adding: "If there's an adequate intake of collagen from the diet, it's going to make no difference. Even though some papers have shown some differences, they're normally small studies. And, essentially, collagen is present in any edible animal tissue."

Citing a review article, *Effects of Collagen Ingestion and their Biological Significance*, published in the *Journal of Nutrition & Food Sciences*, Goodwin, the author of *Supercharge Your Brain*, says: "In beef, there's 7.5mg in every gram that you eat. Chicken thigh, for example — that's 15.6mg per gram.



Khloé Kardashian and, right, Jennifer Aniston

Salmon is 8.2. So if you're eating an adequate animal-based diet, you're not going to have any benefit whatsoever by taking collagen."

Yet it's sold as something we're missing out on. Chantelle Nosrati, 29, says: "I hadn't heard of the benefits until I went to LA and Khloé Kardashian was promoting it. My sister, who's 25, said, 'Let's try it — what have we got to lose?' We bought the blue Vital Protein one. It's flavourless; you can add it to soup, porridge, teas, coffee, so it's flexible in terms of how you consume it." They've since bought watermelon and mocha flavour. "Then I came across the Skin Hydration Boost capsules. I read the reviews and saw a lot of five-star feedback."

"I take the powder in the morning with coffee, 10g collagen per serving, and then the capsules. They've got

hyaluronic acid, vitamin C to boost your collagen synthesis, biotin, zinc, selenium and magnesium," she says. "I've found that I sleep better, my hair is maybe a better texture. I just overall feel better when I take the collagen."

Unofficially, they're also touted as a diet aid. While this wasn't Nosrati's focus, she does feel fuller. "Before I bought it, I googled side effects. It did say collagen suppresses your appetite. In a way it's a good side effect. I can manage my diet better, eat smaller portions. It's a good feeling not snacking on rubbish."

But at 29, surely your skin is fabulous? "I do get complimented on my skin. I try to look after myself. I have a full skincare routine and the collagen is part of that." With so many good habits, can you be sure the collagen makes a difference? "I believe it does," she says.

As Mahto notes, if you're worried enough about skin ageing that you're buying collagen supplements, "your skincare routine is probably good, you're wearing your sunscreen every day, you're using a vitamin A. So how do you know it's the collagen

## Teenagers are telling me they are worried about wrinkles

supplement that's boosting those lines and wrinkles?" She also points out that those collagen-promoting celebrities and bloggers "are not disclosing what else they've had done".

She suspects that the collagen boom is "partly that we're so obsessed with how we look. I'm getting teenagers telling me they're worried about wrinkles. It's quite frightening. With the past year, and people sitting at home on video calls, we've become even more self-critical."

All experts interviewed expressed concern about the risks. Mahto says: "A lot of people take a bunch of other supplements as well, and because they're not regulated in a medical way you have no idea what interactions they're causing." Plus, "you don't know what's in them".

In some cases, Paul says, "hydrolysed collagen is made from ground-up chicken, fish, cow hoofs, and these tend to absorb heavy metals such as cadmium and toxins. Further, when it comes to collagen from cow ingredients, there is a real risk of BSE [mad cow disease] long term." (Another reason for the popularity of marine collagen — made from fish skin, bones and scales.)

Paul says that if you want to look after your skin, aim for a "healthy lifestyle with sun protection, not smoking, drinking very little, sleeping enough and drinking water".

It's not all bad news. Taking a collagen supplement for your joints "may have anti-inflammatory effects", according to the charity Versus Arthritis.

Mahto says, "I think there's reasonable data on joints — there might be a genuine benefit." However, if you're taking it for your skin and "you don't have money to burn, a good skincare routine and eating healthily are probably far more important".