

Is TikTok right? Will eating three carrots a day really give you a 'natural tan?'

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Credit: AI-generated image (disclaimer)

A beauty trend gaining popularity on TikTok, dubbed the "carrot tan," claims eating three carrots a day will give you a natural tan.

But can this really give you a natural glow? And is it healthy?



Why would carrots affect your skin tone?

<u>Carotenoids</u> are natural pigments that give red, orange and yellow colors to fruits and vegetables. Think of them as nature's paint.

There are many carotenoids including lutein, lycopene, alpha-carotene and beta-carotene. Beta-carotene is the carotenoid responsible for a <u>carrot</u>'s vibrant orange color.

Once a beta-carotene containing food is digested, special cells in the gut break it into two molecules of retinol (also known as <u>vitamin</u> A). This vitamin A is then used in various critical bodily functions such as vision, reproduction, immunity and growth.

The body controls the conversion of beta-carotene into vitamin A based on what it needs. So, when the body has enough vitamin A, it slows down or stops converting beta-carotene into vitamin A.

Any extra beta-carotene is then either stored in the liver and fat tissue, excreted through poo, or removed via sweat glands in the outer layer of the skin. This is when the orange skin "tan" can happen. In medicine, this is called <u>carotenoderma</u>.

Carotenoderma gives your skin a yellow/orange pigment that is not the same color you'd turn from a sun tan. It is <u>concentrated</u> in the palms of the hands, the soles of the feet and smile lines near the nose.

Carrots are not the only food that contains beta-carotene. Dark-green leafy vegetables, some (not all) other yellow- and orange-colored vegetables and fruits also contain high amounts. Beta-carotene is also found in parsley, basil, chives, chili powder, sun-dried tomatoes and some <u>dietary supplements</u>.



How many carrots are we talking?

A few days of high carrot intake will unlikely result in a change in skin color.

No high quality trials have been conducted to test the relationship between number of carrots eaten per day and skin color changes or other outcomes. However, there is evidence that carotenoderma appears when blood levels get higher than $250-500 \mu g/dL$.

One published <u>case report</u> (where researchers talk about one patient's case) found eating around 3 kilograms of carrots per week (about seven large carrots a day) induced skin color changes.

Other experts suggest you would need to eat <u>at least ten carrots per day</u>, for at least a few weeks, for color changes to occur. Most people would find this carrot intake challenging.

The amount of carrots needed to change skin color will also <u>depend on</u> the variety of carrot, its size and ripeness, the way the carrot is prepared (raw or cooked) and whether or not the carrot is eaten with a source of fat. A person's weight and gastrointestinal health will also impact the amount of beta-carotene absorbed.

Is it dangerous to eat too much beta-carotene?

Vitamin A comes in two main forms, preformed vitamin A and provitamin A.

Preformed vitamin A is the active form of vitamin A found in animalbased foods including liver, fish liver oil, egg yolks and dairy products. When you eat these foods the preformed vitamin A is already ready to



be used by the body.

Provitamin A compounds (including beta-carotene) are the precursors to vitamin A. Provitamin A compounds need to be converted into active vitamin A once inside the body.

Preformed vitamin A can be toxic if consumed in <u>large amounts</u>. However, provitamin A compounds <u>don't cause vitamin A toxicity</u> in humans because the body tightly regulates the conversion of provitamin A <u>compounds</u> to vitamin A. For this reason, there are <u>no recommended</u> limits on how much beta-carotene a person can safely consume each day.

There is, however, <u>some evidence</u> that taking high-dose beta-carotene supplements (20 mg per day or more) increases lung cancer risk in people who smoke cigarettes or used to smoke. This <u>may be due to</u> changes to chemical signaling pathways.

The Cancer Council therefore <u>recommends</u> avoiding high doses of betacarotene supplements (more than 20 mg per day), especially if you smoke. This <u>does not</u> relate to wholefoods though, so people who smoke should still consume fruits and vegetables that have beta-carotene.

Why you should aim for a variety of vegetables

You can still use food to look great without focusing on eating carrots. Incorporating various colorful vegetables, particularly those high in carotenoids, into your diet may <u>promote</u> a natural radiance and a gentle enhancement in <u>skin tone</u>.

Rather than processed foods, a high variety of fresh vegetables provide various nutrients, and some may have what others lack. So it's important to have a balanced diet that doesn't depend on a single type of vegetable.



No matter how many carrots you eat in a day, it's important to protect your <u>skin</u> with sunscreen when going outside.

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