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Biotin: do vitamins for hair growth really work?

If you are interested in hair growth supplements, then chances are you've heard of biotin. In recent years, this vitamin has grown in popularity and is widely available in the cosmetic industry. What exactly is biotin, and can it really promote longer, healthier hair?

Biotin for hair growth

"Biotin, or vitamin B7, plays a key role in the production of a number of different proteins," explains Gaby Vaca-Flores, registered dietician and education specialist with [HUM Nutrition](#). "While the research directly linking biotin to hair growth is limited, biotin does have the potential to promote healthier hair in an indirect way."

Biotin helps to activate proteins (called enzymes) that play an important role in the metabolic processes that contribute to healthy hair - namely, the chemical reactions involving glucose, fatty acids, and amino acids.

"Biotin also has the potential to stimulate the production of keratin, the main protein in the hair and nails," Vaca-Flores adds. "Since keratin is the main building block of the hair, it can be inferred that promoting its production can benefit hair health."

Who can benefit from biotin?

Despite its popularity, there is [no high-quality research](#) into the effect of biotin on hair conditions such as [alopecia](#), and little or no evidence to support the use of [biotin supplements](#) in people with naturally healthy biotin levels. And despite the hype, very few of us fall into that category: most of us get enough biotin through our diet to keep our hair healthy.

Healthy biotin levels

The [Food and Nutrition Board of the Institute of Medicine](#) states that the daily adequate intake of biotin for adults is [30 micrograms per day](#). The Department of Health [Dietary Reference Values Guide](#) is rather less prescriptive, stating that: "There have been no studies of biotin requirements but current intakes are 10 to 70 micrograms/day and there is no evidence of biotin deficiency."

Most of us easily reach this requirement of biotin through the foods we eat, as long as our diets are [well-balanced and healthy](#). Therefore, most [experts](#) do not recommend biotin for hair loss, except in the case of biotin deficiency and related hair loss.

When it comes to cosmetic benefits, there is insufficient evidence to show that taking biotin for hair loss - when we already have healthy levels - can further increase hair growth and health. According to Vaca-Flores, more research is needed to evaluate the effects of biotin supplementation on this group of individuals.

Biotin deficiency

"Low biotin levels can disrupt normal hair growth and can increase shedding. For this reason, the effect of biotin supplementation on hair health is best seen in individuals with low biotin levels," says Vaca-Flores. There is some evidence from [small studies](#) showing that biotin for hair growth may be helpful, but only in patients who have low biotin levels.

Biotin deficiency -when biotin levels in the blood are classed as too low - can be either genetic or acquired. While the [Department of Health's research review](#) suggests biotin deficiency is rare, causes include [alcohol dependency](#), high raw egg consumption, [pregnancy](#), and prolonged use of [antibiotics](#).

Typical symptoms include the following:

- [Hair loss \(alopecia\)](#).
- [Difficulty sleeping](#).
- [Nausea](#).
- Skin irritations - such as [rashes](#) and [eczema](#).
- [Depression](#).

- Excessive tiredness.
- Seizures.

These symptoms may indicate another condition, or sometimes low levels of biotin can indicate another disease.

Are hair supplements worksafe?

Ultimately, the decision to take these additional vitamins for hair growth is yours. This said, although biotin is considered to be a safe hair supplement with no reports of major side effects, you may want to consider talking to your pharmacist before starting supplementation.

Biotin sources in your diet

Remember that biotin hair supplements – like all vitamin supplements – are no substitute for a healthy, well-balanced diet. Fortunately, there are plenty of foods rich in biotin. These include the following:

- Nuts and seeds.
- Legumes (like peas, beans, and lentils).
- Whole grains.
- Broccoli.
- Avocados.
- Liver.
- Sweet potatoes.
- Mushrooms.
- Bananas.
- Rice.
- Egg yolk.

Vaca-Flores also warns of the dietary factors that can impair hair growth, which include: "Not eating enough calories, running low on protein, and low levels of certain trace elements like [zinc](#). For this reason, it's important to think of a well-balanced diet as a key part of your hair care routine."

Other vitamins for hair growth

Finally, remember that biotin is just one of several nutrients that support healthy hair. Other nutrients for good hair health include:

- Zinc – a trace element that supports hair growth and repair, and protects hair follicles.
- [Folic acid](#) – a vitamin responsible for healthy cell growth.
- Iron – an essential element of red blood cells. [Low levels have been linked](#) to hair loss.

To keep your hair healthy, a diet containing a variety of healthy foods can usually provide adequate levels of all these hair-loving nutrients. If you're investing in a hair supplement product, Vaca-Flores also recommends looking for one that offers these other nutrients, as well as biotin.

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