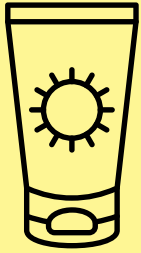


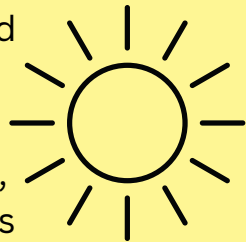
# The Importance of Nutrition for Skincare

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Who doesn't love radiant, healthy, glowing skin? As exams pile up and you're swimming in due dates, a flashy skincare routine may not fit into your schedule or your budget. Of course, wearing sunscreen and cleansing your face are great ways to preserve the health and integrity of your skin, but topical treatments are not the only way to keep your skin feeling soft and youthful. The foods you eat every day can have lasting impacts on the appearance of your skin, getting you closer to that natural glow.

Our skin is composed of two layers, the epidermis and the dermis. The epidermis is the outermost layer and serves as a protective barrier to the dermis: the nutrient-dense layer of the skin. The epidermis consists of skin cells which are constantly reproducing as we shed dead skin and rebuild new, healthy skin. Some cells in the epidermis are responsible for shielding UV rays from damaging our underlying tissues. The dermis is located between the epidermis and other body tissues like fat, muscles, connective tissue, and bone. Its primary role is to support the epidermis by providing flexibility, integrity, and nutrient support via blood vessels. Each layer of the skin serves a special purpose, so what foods can best fuel these layers and keep our skin healthy and glowing?



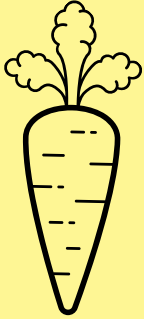
## Glucose

Like our brain, our skin thrives off of glucose as its primary fuel source. Glucose is found in all carbohydrates we consume, but it's important to focus on eating complex carbohydrates. Complex carbohydrates contain fiber which helps keep us full longer to power us through those late-night study sessions. Examples of complex carbohydrates are whole-grain breads, whole-grain pastas, quinoa, and brown rice. These are rich in both glucose to feed our skin and fiber to keep us satisfied.



## Vitamin A

Vitamin A is a common nutrient found in our favorite fruits and vegetables and is a popular additive in skincare products. This vitamin is efficient in preventing skin reddening as a result of UV exposure, helping our skin stay glowy. This is a direct result of eating beta-carotene, a carotenoid that converts into vitamin A. Carotenoids are health-promoting pigments that result in the unique colors of the produce we love. Foods with beta-carotene are typically orange like carrots, pumpkin, papaya, sweet potatoes, and mango. Another form of vitamin A common in skin products is retinol. Retinol is found to be essential for the growth and maintenance of our skin tissues. Retinol is found in liver, milk, egg yolks, cheese, and fatty fish like salmon or mackerel.

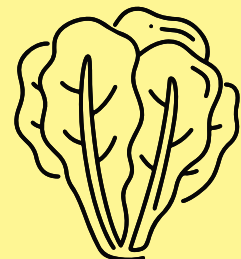


## Vitamin C

Vitamin C is found in many fresh fruits, especially citrus fruits like oranges, lemons, and limes. This vitamin is associated with collagen synthesis since it is a necessary component in stabilizing its structure. Collagen is a protein that is the building block of many connective tissues within the body and our skin. Vitamin C is a popular ingredient in topical skin treatments for its skin-lightening and anti-aging effects. Sources of vitamin C to incorporate into your diet are fresh fruits like citrus and strawberries and vegetables like broccoli, tomatoes, bell peppers, and Brussels sprouts.

## Vitamin E

Vitamin E is yet another vitamin that is important in the promotion of healthy skin. Vitamin E acts synergistically with vitamin C to help reap even more skin benefits! Consumption of this vitamin can prevent collagen cross-linking, which stiffens and damages the collagen fibers and prevents free radicals from attacking the lipids in our skin. Both of the aforementioned situations are associated with skin aging. Vitamin E is prominent in vegetables like asparagus, red bell pepper, leafy greens, sunflower and wheat germ oils, corn, mangoes, and nuts.





## **Omega-3 and Omega-6 Fatty Acids**

Omega-3 and Omega-6 fatty acids are important in physiological processes like inflammation which can impact our skin when we break out. A diet lacking in these two fatty acids, collectively known as essential fatty acids, can impact acne and overall skin health and appearance. The recommended ratio of omega-6 fatty acids to omega-3 fatty acids is 1:1 to 4:1. An imbalance in the essential fatty acids is associated with dry, itchy, and scaly skin. Sebum is an acidic, oily substance produced by our body that helps moisturize our skin and is the main culprit for acne. Research shows that acne patients' sebum is deficient in omega-6 fatty acids which supports the idea that this fatty acid is a component in promoting healthy skin. Daily ingestion of the essential fatty acids also reduces skin redness. Sources of omega-3 fatty acids are fatty fish like salmon and mackerel, fish oil, olive oil, canola oil, flaxseeds, and walnuts. Sources of omega-6 fatty acids include eggs, sunflower oil, sunflower seeds, walnuts, and pumpkin seeds.

## **Polyphenols**

Polyphenols are found in vegetables, fruits, cereals, chocolate, dry legumes, and many beverages like fruit juices, coffee, red wine, and teas. Research shows that a dietary intake of just 1 gram of polyphenols per day is associated with disease prevention and protects against free radicals. These compounds can protect our skin from UV radiation and decrease the risk of skin cancer. Polyphenols are found in topical treatments like green tea extract and can be consumed in our diet through a cup of tea, dark chocolate, blueberries, and even spices like ginger, cinnamon, and cumin.

Most of the aforementioned vitamins and other compounds are already found in our favorite fruits, vegetables, and other diet components. Although nutrition is not the end-all-be-all for acne prevention, research shows that the foods we consume can influence the health of our overall body, including our skin. By eating a balanced diet rich in whole grains, vegetables, fruits, proteins, and essential fatty acids, we can be sure that we are consuming all of the compounds that improve the health and appearance of our skin!



## Additional Resources

1. Michels, AJ. Skin health. Oregon State University. Published September 2011. [https://docs.google.com/document/d/1kZHUUJ3DYzLxe7alLOdtYSWAGFeAfFKPqNunRPN\\_3sBU/edit](https://docs.google.com/document/d/1kZHUUJ3DYzLxe7alLOdtYSWAGFeAfFKPqNunRPN_3sBU/edit). Accessed November, 2023.
2. Schagen SK, Zampeli VA, Makrantonaki E, et. al. Discovering the link between nutrition and skin aging. National Library of Medicine. Published July 1, 2012. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3583891/>. Accessed November, 2023.
3. Collagen. Cleveland Clinic. Reviewed May 23, 2022. <https://my.clevelandclinic.org/health/articles/23089-collagen>. Accessed November, 2023.
4. The Nutrition Source. Vitamin C. Harvard T.H. Chan School of Public Health. <https://www.hsph.harvard.edu/nutritionsource/vitamin-c/>. Accessed November, 2023.
5. Stevens R. Glycation and cross-linking – what is it and how can I prevent sagging or wrinkling. My Skin Boutique. Published July 14, 2018. <https://skinboutique.com.au/glycation-and-cross-linking-what-is-it-and-how-can-i-prevent-sagging-or-wrinkling/#:~:text=Let%27s%20start%20with%20Cross%2Dlinking.&text=When%20this%20happens%20the%20fibers,a%20wrinkle%20or%20sagging%20skin>. Accessed November, 2023.
6. The Nutrition Source. Vitamin E. Harvard T.H. Chan School of Public Health. <https://www.hsph.harvard.edu/nutritionsource/vitamin-e/>. Accessed November, 2023.
7. Pappas, A. The relationship of diet and acne. National Library of Medicine. Published October 2009. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2836431/>. Accessed November, 2023.
8. Nivea. What is sebum. Nivea. <https://www.nivea.co.uk/advice/skin/what-is-sebum#:~:text=Sebum%20is%20a%20sticky%20oily,molecules%2C%20waxes%2C%20and%20squalene>. Accessed November, 2023.
9. Ask the Doctors. Polyphenols can be found in many fresh foods. UCLA Health. Published August 15, 2022. <https://www.uclahealth.org/news/polyphenols-can-be-found-in-many-fresh-foods>. Accessed November, 2023.

