

# Essential Fatty Acids

## *at the foundation of whole body beauty*

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The characterization of a person as “beautiful” is often based on some combination of inner beauty, which includes psychological factors, and outer beauty, which includes physical factors. External manifestations of beauty, such as body composition and the appearance of skin, hair, and nails are a reflection of our inner state of overall health.

Skin is the largest organ in the human body, simply because of the sheer amount of surface area that it covers. As a result, our skin is often the first visual indicator of a deficiency in our diet or an external manifestation of an internal disease state. As with other organ systems in the body, the skin has a basic immune response mechanism equipped with antigen-presenting cells, mast cells, lymph nodes, and cytokine-(inflammation) synthesizing cells. Collectively, all of the cells, when presented with a skin-irritating factor, can result in an acute or ultimately a chronic inflammatory skin condition such as eczema or psoriasis.

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At the core of maintaining both inner and outer beauty is a healthy lifestyle that includes plenty of exercise, fresh air, and good nutrition. The optimal form of exercise, yoga, meditation, and/or other activities that help to foster inner beauty, is highly individualized. Optimal diet is highly variable among individuals; however, the foundation of all nourishing diets must include the essential fatty acids, EPA, DHA, and GLA.

The human body can manufacture most of the fats it needs, including cholesterol, saturated fatty acids, and unsaturated fatty acids. However, there are two families of fatty acids, the omega-6 and the omega-3 fatty acids, that are considered essential fatty acids. These fatty acids are essential because the parent omega-6 fatty acid, linoleic acid (LA), and the parent omega-3 fatty acid, alpha-linolenic acid (ALA), absolutely cannot be synthesized by the human body and **must be obtained from the diet or supplementation.**

Through an inefficient enzymatic process, the parent omega-6 and omega-3 fatty acids, LA and ALA, can be metabolized into the functionally important longer

chain omega-6 and omega-3 fatty acids, EPA, DHA, and GLA. These fatty acids are strongly associated with improved health, and support several aspects of maintaining a beautiful and youthful glow.

Fish oil is the best source of the essential omega-3 fatty acids, EPA and DHA. Borage oil and evening primrose oil are the best sources of preformed GLA. Research demonstrates a deficiency of GLA in people with chronic inflammatory skin conditions such as eczema and psoriasis, and has shown supplementation to be beneficial.

## Scientific Update

Essential fatty acids (EFAs) help maintain inner beauty by supporting a positive mood and disposition. EFA deficiencies are found in individuals who suffer from alterations in mood, such as depression<sup>1</sup>. In fact, in a population-based study involving 2,416 adolescents and adults living in New Zealand, there was a positive association between higher serum essential fatty acid concentrations and physical well-being and self-reported mental well-being<sup>2</sup>.

EFAs support outer beauty in several important ways. First and foremost, EFAs are absolutely essential for proper cellular health because they are required constituents of ALL cell membranes, including the cells of our skin, hair, and nails. A cell membrane surrounds and protects every cell in the human body, and allows nutrients into and waste out of the cell. A healthy cell requires an optimal balance of EPA, DHA, and GLA.

In addition to their effect on cell membrane composition, the second key function of EFAs lies in their ability to reduce inflammation. Our skin, hair, and nails are constantly exposed to the forces of nature that result in irritation and inflammation. Inflammation is a normal protective physiological mechanism. However, EFAs deficiency can lead to a long-term physiological state that leads to accelerated tissue damage, photo-aging, and wrinkles.

Research shows that EFAs are important for maintaining optimal cell health and supporting beautiful, radiant skin, hair, and nails. Inadequate intake of EFAs can lead to dry skin, eczema, dermatitis, and premature wrinkling, whereas supplementation will allow for optimal intake and improvement and maintenance of smooth and radiant skin. A study done on elderly people proved that GLA was useful in

completely reducing symptoms of itchy skin in over a third of the population study! In addition, epidermal (skin) water loss was reduced, and study participants reported that their skin felt less dry after taking borage oil<sup>3</sup>.

Exciting new studies have shown direct evidence that EFAs, in particular EPA, inhibit ultraviolet radiation (UVR) damage to skin cells that causes wrinkles and premature aging<sup>4</sup>.

Essential fatty acids also support healthy metabolism and body composition. It is well established that EFAs support cardiovascular health, and they are even endorsed by the American Heart Association. Emerging evidence now shows that EFAs also improve insulin function, help metabolize dietary fats, and reduce the formation of new adipose tissue.

## The foundation of a youthful appearance will always be a *healthy cell* with a balance of the essential fatty acids...

In a recent Australian study, when overweight individuals (BMI > 25) combined essential fatty acids and regular exercise, fish oil and exercise reduced body fat and improved cardiovascular and metabolic health better than exercise combined with placebo<sup>5</sup>. Several other well-designed clinical trials have shown

that fish oil is an important nutrient for improving and maintaining optimal body composition<sup>6,7</sup>.

When you are trying to maintain or improve your overall skin, hair, and nail health, you must always look inward first. The foundation of a youthful appearance will always be a healthy cell with a balance of the essential fatty acids, EPA, DHA, and GLA. Regular exercise, a balanced whole-foods diet, and daily supplementation with fish, borage, and evening primrose oils are all key components of whole-body beauty.

### Omega-3s in fish oil have been shown to:

- Keep skin hydrated to help prevent dry skin
- Help soothe rough skin
- Improve blood flow to the skin and help decrease inflammation
- Encourage production of new healthy skin cells
- Protect the skin against sun damage

### GLA found in omega-6 fatty acids such as Borage and Evening Primrose Oils are known to:

- Reduce symptoms of dry, itchy skin
- Help to keep skin hydrated
- Reduce inflammation associated with some chronic skin disorders

### About the Author:

Dr. Keri Marshall is a licensed Naturopathic Doctor who specializes in holistic pediatrics and women's medicine. She has published several scientific papers and magazine articles, written a book on proteins and amino acids, appears regularly on nationally syndicated radio shows, and most recently, appeared on ABC's "A View from the Bay." She is a writer and blogger for *KIWI Magazine*, a natural family living magazine. Devoted to children's health and wellness, Dr. Marshall also serves as a nutrition expert on the Wellness Committee in the Oyster River School District, helping to change the school lunch program by integrating healthier options. Dr. Marshall received her Naturopathic Medical degree from the National College of Naturopathic Medicine in Portland, Oregon, a Masters Degree in Social and Preventive Medicine from S.U.N.Y. at Buffalo, and a Bachelors of Science from the George Washington University.



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