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Niacin: More Than Anti-Aging



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I am not a chemist by trade, but rather a curious explorer of human biology and, more specifically, cellular metabolism. I am fascinated with how our biology so magically works, and I find the discovery process endlessly entertaining. It doesn't surprise me that my second career is taking me towards cosmetic product formulations and that science is driving my abilities to create advanced corrective products that impact cellular health and anti-aging. While researching [active ingredients](#) to address [inflammation](#), I stumbled on a patent abstract written by an 82-year-old man about a form of niacin that, when applied topically, acts as a [vasodilator](#) to increase circulation.

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His research studies also focused on how topical niacin acts as a carrier for improved penetration of [vitamins](#) and other micronutrients.

These days we are seeing more and more [cosmeceutical](#) skin care and body care products with various forms of niacin in their formulations. According to dermatologist, Zoe Draelos, M.D., "[Therapeutic](#) effects of [niacinamide](#) will continue to rise". From my research and from having formulated an effective cellulite product using niacin, I better understand why this vital nutrient is gaining attention in the skin care industry. So, what is so 'hot' about niacin and what is it anyway? Let's take a look at the role that niacin plays in human cellular biology and the active properties that it contributes in skin care treatment formulations.

What is Niacin

[Vitamin](#) B3 (niacin) is one of eight [water](#)-soluble B [vitamins](#). Niacin plays an important role in ridding the body of toxic and harmful chemicals. It also helps the body make various sex and stress related [hormones](#) in the [adrenal glands](#). Niacin is effective in improving circulation and reducing [cholesterol](#) levels in the blood. Much research is underway to substantiate the healing properties of niacin for high [cholesterol](#), atherosclerosis, diabetes, [osteoarthritis](#), cataracts, and burns. It is also being researched for use in skin care products as an anti-aging agent, for treatment of [acne](#) and possibly for prevention of skin cancer. To understand why niacin is an emerging [therapeutic](#) ingredient, it is important to review how this potent active [vitamin](#) behaves interactively with [cells](#) and skin structures.

How Aging Affects the Skin

As people age, progressive changes in the skin occur. During the normal aging process, both the [epidermis](#) and [dermis](#) become thinner with a loss of [cell](#) numbers and connective tissue. This cellular deterioration of skin structures leads to facial wrinkles and is a cofactor in causing cellulite. Also, exposure to ultraviolet sun radiation is a major source of skin oxidative stress that leads to loss of skin [cells](#), age spots, [actinic keratosis](#), and skin cancer. The question is, how can niacin address these concerns?

How Can Niacin Help

Repair and maintenance of healthy skin is dependent upon supplies of many essential nutrients to cellular components, as well as the efficient removal of waste products such as carbon dioxide, and other [metabolic](#) end products. An optimal supply of [oxygen](#) is required in order to support these natural, [metabolic](#) cellular functions. This is where niacin comes in. It is desirable to formulate skin and body care products that work in tandem with cellular biology to improve and prevent skin conditions, like aging. Niacin increases [capillary](#) dilation, which in turn increases blood flow or what is known as vasodilation. Our bodies are composed of over 70 trillion [cells](#) that rely on fully functioning capillaries for survival, including skin [cells](#). Skin care treatment formulations that contain topical niacin derivatives enhance oxygenation of the [dermis](#), due to increased circulation resulting in what I call, 'happy [cells](#)'.

Medical and aesthetic practitioners are already realizing some benefits from using niacin in the treatment of skin conditions. Dr. Draelos, a pioneer in the field of niacin application, explains: "Niacin is thought to modulate skin [leptin](#) levels and alter cellular communication. We believe

[niacinamide](#), a derivative of niacin, acts as a topical anti-inflammatory, to speed [cell](#) turnover." Dermatologist Leslie Baumann, M.D., speaking at the American Academy of Dermatology's annual 2003 meeting stated: "New studies have shown that niacin is beneficial to the skin, specifically for problems involving pigmentation and dry skin. This could become another promising treatment for aging skin, which often becomes dry and flaky as we get older." [Niacinamide](#), as well, has shown to be an effective skin-lightening agent, and due to its anti-inflammatory properties, it is being tested as a possible treatment for [acne](#) and [rosacea](#).

Niacin and Cellulite

It should be noted here that in facial products, it is preferable to gain the healing properties of niacin, without that signature 'niacin flush'. When taken orally, niacin typically causes a systemic rosy to red flush, heats up the body, and may also promote sweating around the head and neck areas. [Niacinamide](#) is engineered to prevent the niacin flush. However, it still retains the [therapeutic](#) properties of the [vitamin](#). For body treatment products, a localized flush is desirable, indicating an immediate increase in circulation. For addressing the treatment of cellulite, increased circulation promotes healthy cellular metabolism and aids in reducing [inflammation](#) caused by engorged fat [cells](#). Clients tolerate it well, as long as they know to expect the red appearance as being the desired activity versus an allergic reaction. I have termed the experience a 'flush-rush' due to the instant physical stimulation and [energy](#) burst you feel from increased circulation and thermal body heat it produces in the treated areas. The flush lasts for approximately 20 to 30 minutes.

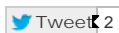
The Future of Niacin

In conclusion, more research is needed to better understand all of the physiological benefits of niacin for corrective skin and body conditions. The future promise of this amazing [vitamin](#) is already upon us. [Vitamin](#) B3 is considered by most to be the major B [vitamin](#) required for a healthy existence. What better than to utilize a nutrient that our bodies already recognize as [cell](#)-friendly for topical, [therapeutic](#) product formulations. So, next time you see an anti-aging skin care moisturizer or cellulite product with niacin, give it a try. As we know, the truth resides in the results. I don't think you'll be disappointed.

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Jeri Ross, President and CEO of LjR, Inc. and creator of CelluliteRx, has a Masters degree in Public Health & Research and has worked in the medical industry for 15 years as a Health Educator Administrator. In 2004, she teamed up with her sister, Lyn Ross, owner of Institut'DERMed to contribute her research skills towards the development of advanced [cosmeceutical](#) skin and body care formulations. For more information, visit www.celluliterx.biz or email ms.jeriross@comcast.net



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