

News & Comments

Blue Light and Our Skin – The Things we do and don't Know

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There are endless creams and sprays on offer in the skincare aisle of any health and beauty retailer, each promising to protect your skin from various threats. Skincare companies may advertise that their products are blue-light-resistant, protecting skin from harm. But what exactly is blue light? It is everywhere, the sun emits it, and so do the fluorescent and incandescent light bulbs, mobile phones, computer screens, and flat-screen televisions.

Humans can only detect visible light, which accounts for half of the sunlight spectrum. Among the visible spectrum's blues bands, the level of energy is particularly high. Longer wavelengths transmit less energy. Short, high-energy waves make up blue light.

The studies suggest that blue light can affect the skin, eyes, and the body's internal rhythm. Research on sun radiation has typically focused on ultraviolet radiation, particularly UVB, which causes sunburn. Reactive oxygen species (ROS), highly reactive chemicals formed from oxygen, are often reported as a side effect of blue light exposure. A high level of ROS can damage DNA and key enzymes involved in DNA repair, increasing your cancer risk. Karl Lawrence, Post-Doctoral Researcher in Photobiology at King's College London conducted a study that showed blue light can induce pigmentation (tanning) across skin types. The team also discovered that activating genes associated with inflammation and photoaging (skin damage) were also shown to be possible with blue light. Blue and visible light damage can't be prevented by typical sunscreens, according to several studies.

Though blue light has shown to be beneficial in treating skin conditions like eczema, in photodynamic therapy (treating acne to cancer), and in boosting wound healing, in healthy people, however, the negative effects of blue light outweigh the positives. Blue light damage isn't typically protected by traditional photoprotection products (such as sunscreen). Though the skincare industry is trying to tackle the issue, governments must develop industry-wide, standardized testing as the next step in this process. To keep your skin healthy, limit your sun exposure. Skin cancer and photoaging can be prevented with sunscreens and products advertising blue light protection, and those products are also proven to reduce the risk of skin cancer.

KEYWORDS

Pigmentation, Photodermatology, Photoprotection, UV radiation, Visible radiation, Blue light

