

Warning, Cell Phone Addicts: Your Phone Is Aging Your Skin

We all know about the danger of ultraviolet rays from the sun, but research is now pointing a finger at the infrared and high energy visible (HEV) light that comes from everyday objects like your phone.

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What is HEV or blue light?



The sun radiates energy in the form of wavelengths that range from very short on one end of the spectrum (gamma rays) to very long at the other end (radio waves). The longer the wavelength, the deeper the penetration of energy into the skin. "HEV light specifically refers to the high-energy band of visible light in the blue/violet spectrum that has the shortest wavelength," explains Boca Raton dermatologist Jeffrey Fromowitz, MD. "And that type of light seems to behave similarly to ultraviolet."

Where does HEV come from?



"The main source of high-energy visible light (HEV) or blue light is actually sunlight," say **Alejandra Vivas, MD, of Minars Dermatology**. "But it is emitted by any light-producing screen that causes damage to important structural proteins such as collagen via oxidative stress." Beyond the sun, other sources of HEV or blue light include fluorescent and LED lighting, flat-screen televisions, computers screens, tablets, smartphones, and other digital devices—all things we're exposing ourselves to more regularly.

What does HEV exposure do to the skin?



A 2008 study suggests that this wavelength of light is able to penetrate into the deeper layers of the skin, like ultraviolet light, making it potentially even more invasive. "The consequences include premature aging, wrinkling, and pigmentation of the skin (sun spots and melasma)," says Dr. Fromowitz. "But, there is currently no link between skin cancer from such exposure."

Why is HEV becoming a concern now?



As technology changes, scientists continue to monitor its effects on our bodies. With HEV, the major focus has been on the deleterious effects of this light source on the eyes due to the amount of people were looking at these types of devices. While the eyes naturally block 99 percent of UV light, blue light passes through the cornea and lens and reaches the retina, potentially leading to macular degeneration and cataracts. Here's [how screens may be damaging your eyes](#). It was this level of penetration that sparked the interest in HEV's effects on skin.

How can you avoid HEV exposure?



When it comes to protecting your skin from the sun's rays, you know to stay in the shade, wear sun-protective clothing, and don a hat. While those habits will help you fight against UVA and UVB light, it won't protect you from HEV. "At the end of the day the most important thing to do is limit screen time," says Dr. Fromowitz. "It's the only thing to help combat the exposure—not to mention it will help regulate your sleep patterns."

Will sunscreen block HEV?



"The best broad-spectrum sunscreens protect against UVA and UVB, but do not filter HEV," says **Dr. Vivas**. "Therefore, the right choice of sunscreen to protect against blue light effects should be one that includes antioxidants to fight the oxidative stress that causes photo aging." **Dr. Vivas** likes [Eucerin Sun Fluid Anti-age](#). Unfortunately, SPF ratings relate *only* to UV light. They do not imply any protection from infrared or HEV light. However, UV is still the most important source of damage, so it's a good place to start.

Are there products to help block HEV?



They're coming. At the moment, most ingredients that address these other wavelengths are plant-based—like phytochemicals from Polygonum, Thermus, and Physalis—that help protect skin indirectly. Antioxidants are one of the best ways to help skin cope with oxidative stress and prevent the formation of free radicals, one of the most important pathways of solar damage. But as the effects of HEV are researched more heavily, more products are being created to specifically combat the problem. For example, the [FIXMD FORTIFY Matrix Moisturizer](#) includes melanin, a light-absorbing

ingredient that actively protects against HEV light. Other natural shields against blue light include [Moonlight Primer](#), by MAKE, which is designed as a moisturizer, a primer, and a blue-light blocker in one.

Is HEV always a bad thing?



Not necessarily. "Don't panic or roll your eyes that there is yet another thing out there that can hurt you," says Goesel Anson, MD, FAS, Co-Founder of FIXMD. "UV is still the most important source of damage," however, HEV blue light rays are often used in light therapy to help treat seasonal affective disorder (SAD)—a type of depression linked to the changing seasons.

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