Shining light on sun protection products

Dear Alice,

I find choosing among all of the available sunscreens and sunblocks to be very confusing. Of the following three products I am currently using, which one is giving my skin the most protection: sunscreen SPF 30 with UVA, UVB, and IR sun protection; sunblock SPF 17 with UVA, UVB, and IR sun protection; or, sunblock SPF 50 with UVA and UVB sun protection? By the way, what is the difference between a sunSCREEN and a sunBLOCK?

Desperately Seeking Protection

Answer

Dear Desperately Seeking Protection,

Walk into any pharmacy, and you?ll find a dizzying array of sun protection products and a sea of marketing claims. It can be difficult to know which products offer the best defense, so a bit of info on sunbeam basics may help illuminate some of the confusion:

- **Ultraviolet (UV) rays**: UV rays are invisible to your eyes and come in three types: A, B, and C. Only **UVA** and **UVB** rays reach your skin, and both pose some skin cancer risk. UVA impairs your skin?s ability to produce new skin cells, and lots of unprotected UVA exposure can lead to age spots, wrinkles, and cancer. UVB is responsible for those harsh burns you can get after a day at the beach. UVB damages the outer layer of skin which inflames the blood vessels. Frequent UVB exposure can lead to skin cancer as well (but some UVB exposure ? about 15 minutes a day ? does a body good by producing vitamin D [2]).

- **Visible light**: Visible light rays (the ones that help us see the world) are far less harmful than UV rays, but unprotected exposure can lead to the development of free radicals, or reactive molecules that damage cells and increase cancer risk. Visible light can also darken skin pigment or worsen melasma (dark brown or grey skin patches).

- **Infrared radiation (IR)**: Just like UV rays, IR comes in three types: A, B, and C but only IRA poses risks. It has similar consequences as UV and visible light, including cell damage from free radicals and skin cancer, but there isn?t as much known about IR rays? effects just yet.

The sunscreens you?ll find out there will only protect against UVA and UVB. There actually aren?t any available yet that will filter out IR. Until then, using UVA/UVB sunscreen alongside other protective measures may be a good move. These strategies could include avoiding...
peak sun exposure (from 10am and 2pm), wearing clothing to cover exposed skin, and investing in a solid pair of sunglasses [3].

Since sunscreen labels can be confusing, the U.S. Food and Drug Administration (FDA) has established labeling requirements. Most importantly, use of the term ?sunblock? is banned because no product can actually block the rays ? they only filter or reflect some of the rays. They?ve also banned ?waterproof,? because sunscreens are only ever water resistant and must be reapplied after taking a dip or sweating excessively. A key phrase to look for is ?broad spectrum,? which means that it protects against UVA and UVB (rather than just one). A sunscreen can only claim to reduce sunburn, skin cancer, and premature skin aging if it is both broad spectrum and at least SPF 15. You might also see labels that say ?physical? or ?chemical? sunscreens, which just refer to the way the sunscreen protects your skin:

- **Physical or ?inorganic?:** These products scatter both UVA and UVB rays away from the skin using zinc oxide or titanium dioxide.
- **Chemical or ?organic?:** These products (containing active ingredients like avobenzone or oxybenzone) absorb the UV rays before they can penetrate your skin.

And what do those mysterious SPF numbers mean? SPF stands for sun protection factor and measures the proportion of UVB rays that the product filters out (there?s no system for measuring UVA protection quite yet). The American Cancer Society, FDA, and dermatologists recommend using at least SPF 15, which shields you from about 93 percent of UVB rays. SPF 30 filters out 97 percent of UVB rays, but above that, you get little extra protection. A common misconception is that the higher the SPF, the longer you may stay in the sun. This simply isn?t true, and all sunscreens work best if reapplied every two hours. It?s also a misnomer that sunscreen is only for sunny days ?applying protection even when you?re outside on a cloudy day or in the wintertime is recommended. Last, but not least, make sure to check the expiration date to ensure that your product of choice is still at its original strength.

For the sunscreens you?ve mentioned, either the SPF 15 or 30 would likely get the job done, as long as they?re broad spectrum. As the science of sun protection advances, keep an eye out for information on new products, especially for those IR rays. If you?re looking for a fun way to remember some of this, check out the FDA?s ABCs of Sun Protection [4]. Props to you for wanting to learn everything under the sun about sunscreens!

Alice!

Category:
General Health [5]
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Published date:
May 31, 1996

Last reviewed on: