

The Health Column by Evelyn E. Ames "Sense in the Sun"

The sun has arrived, at least for a few days! It's time for Sense in the Sun! Whether the sun is shining or it is cloudy/hazy outside, ultraviolet rays (UVA/B) can harm the skin. This article's objectives: identify risk factors associated with skin cancers; distinguish between UV –A and B rays; suggest several ways to lessen damage to skin by sun rays; explain meaning of SPF numbers; identify best types of sun glasses; and list web sites for the interested reader.

Risk Factors for Developing Skin Cancer:

- Lighter natural skin color
- Family history of skin cancer
- Personal history of skin cancer
- Constant exposure to the sun through work and play
- A history of sunburns early in life
- Skin that burns, freckles, gets red easily, or becomes painful in the sun
- Blue or green eyes
- Blond or red hair
- Certain types and a large number of moles

Ultra Violet Rays (A and B)

UV-A Rays: maintain a relatively constant intensity throughout the year; penetrate more deeply into the skin's layers than UV-B rays; contribute to premature aging and wrinkling of skin, to sunburn, and even to skin cancer. UV-B Rays: stronger than UV-A' more intense in summer months, at higher altitudes, and closer to equator; most common cause of sunburning; can contribute to premature aging of skin and can cause cataracts; exposure over course of life can cause skin cancer and alter immune system.

Relatively speaking, the hours between 10 a.m. and 4 p.m. (DST 9 a.m. - 3 p.m.) are the most hazardous for UV exposure in the continental United States; UV radiation is greatest during the late spring and early summer in North America. A person's susceptibility to tanning or burning depends on skin type, time of year, and amount of exposure. The National Center for chronic Disease Prevention and Health Promotion classifies skin susceptibility on a five-point scale. Everyone is at risk for damage due to excessive exposure, though people with types I and II are at highest risk.

Skin Type	Tanning and Sunburning History
I	Always burns, never tans, sensitive to sun exposure
II	Burns easily, tans minimally
III	Burns moderately, tans gradually to light brown
IV	Burns minimally, always tans well to moderately brown
V	Rarely burns, tans profusely to dark
VI	Never burns, deeply pigmented, least sensitive

Good rule of thumb: "If your shadow is shorter than you are, you should take extra precautions in the sun." UV exposure is the greatest in the summer (May-August), it is important to remember that UV reaches the Earth every day; take the appropriate precautions in the sun all year round. The longer you are out in the sun, the more UV you receive. Air is cleaner and thinner at higher altitudes; therefore, UV exposure is

greater in the mountains than in the valleys. As for cloudy days, up to 80% of the sun's rays can penetrate light clouds, mist, and fog.

Getting Sunburned!

Snow reflects the sun like a mirror. Fresh snow reflects back about 85% of the sun's rays. You can get sunburned when you are in the water! Water reflects an additional 5% of the sun's rays back on you. Even dry surfaces reflect the sun's rays! Concrete reflects 10% to 12% of the sun's rays.

Effects on Eyes

There is some evidence that ultraviolet light may be linked to the development of cataracts and damage to the retina. (Fishman at U. of Illinois)

UV Index (EPA, CDC, Nat. Weather Service) <http://www.epa.gov/sunwise/uvindex.html>

Gives strength of sun's UV rays in regions in the country.

- 0-2 (minimal): 60 min. to burn
- 3-4 (low): 45 min. to burn
- 5-6 (moderate): 30 min. to burn
- 7-10 (high): 15 min. to burn
- 11-15 (very high): 10 min. to burn

SPF Lotions for Skin Protection

Lotions do prevent sunburn redness but people have a tendency to spend more time in the sun, possibly increasing the risk of skin damage and skin CA. Sun Protective Factors (SPF) in sunscreens is rated according to effectiveness in offering protection UV rays. They absorb, reflect, or scatter sun's rays by chemically interacting with the skin. Rule of thumb: use on with at least 15 SPF if you burn easily. Use of lotion with SPF of 30 are consider useful but those that go higher (e.g., 40) are probably no more effective than 30 SPF). Some new studies suggest that sun block lotions containing such ingredients as PABA (para-aminobenzoic acid) don't block as many of the sun's harmful ultraviolet rays as ads suggest

Sun Glasses: In general, if your eye is reflected in the lens, then that lens is a better blocker of both visible and UV light. Sunglasses need to cover the eyes. Look for labels that indicate UVA/B and visible light protection. Better yet, check with your eye doctor and optician for best sunglass protection.

Some web sites:

- <http://www.fda.gov/opacom/lowlit/sunsafty.html>
- Sunglasses: <http://www.fda.gov/cdrh/ode/90.html>
- Sun lotions: <http://www.cfsan.fda.gov/~dms/cos-220.html>
- <http://www.melanoma.com>
- nonmelanoma skin cancer: http://www.cancer.org/docroot/CRI/CRI_2_1x.asp?dt=51