

# A Primer on Sunscreens

This is adapted from Dr. Sancy Leachman's work at the Department of Dermatology, the University of Utah Health Sciences Center, and used with her permission.

- **Both UVA and UVB rays contribute to skin cancer!**
- **UVB** → These rays cause sunburn! They are strongest in summer, and from 10am to 4pm.
  - Most sunscreens and sunblocks of SPF 30 or higher protect well against sunburn.
  - UVB burning rays cannot penetrate glass, so most people don't get sunburned inside their car or near a window in their home.
- **UVA** → These rays cause premature aging and wrinkling! Unlike UVB, UVA rays are strong all day long, all year long. There is also no way for the human eye to detect exposure.
  - **SPF tells you nothing about UVA protection.**
  - UVA rays DO penetrate glass, so they shine on you while you're in a car or inside your house near a window. Watch the Blue Lizard bottle turn blue inside your car or house! That proves the presence of UVA radiation.
  - Although most sunscreens of SPF 30 or higher protect against UVB rays, they often do not offer optimum protection against UVA rays.
  - Look for **zinc oxide** or **z-cote** (transparent zinc oxide) –ideally, 5% or more- in your sunscreen products. Zinc oxide offers the best broad spectrum protection against both UVA and UVB rays.
  - These ingredients also block a portion of the UVA spectrum, but many do not protect against the longer UVA wavelengths as well as zinc oxide does:
    - Titanium Dioxide – choose a sunscreen with 5% or more. Almost as good as zinc oxide.
    - Avobenzone - also called Parsol 1789 –3% is better than 2% - but when combined with certain ingredients (e.g. titanium dioxide) it may degrade upon UV exposure. It has been proven effective, though, in combination with oxybenzone.
    - Oxybenzone - Blocks a small portion of the UVA spectrum. The label may claim UVA & UVB protection, but oxybenzone alone does not offer optimum UVA protection.
    - Mexoryl SX (water soluble) & Mexoryl XL (oil soluble) – New product in the U.S.A. produced by L'Oreal. Both products block part, but not all, of the UVA & UVB spectrums. They are more effective in combination with each other and/or zinc oxide. The advantage of these products is that they may be more cosmetically elegant than pure zinc oxide and titanium dioxide products.

## **Here are some good UVA/UVB Blockers**

Blue Lizard SPF 30+ Regular, Baby, Faces, Sensitive, or Sport formulas
Vanicream SPF 30, Sport 35
Solbar Zinc SPF 38
Ocean Potion SPF 45 Clear Zinc for faces
All Terrain Terra Sport SPF 30+, Aqua Sport SPF 30+
Nature's Gate Aqua Block SPF 30
Dermatone SPF 36 with z-cote, SPF 30 with z-cote for lips & face
Walgreen's sunblock with zinc oxide SPF 45+ for face, nose, & ears