NEW ENGLAND DERMATOLOGY

LASER CENTER

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SUN SAFETY

CHRONIC LONG-TERM SUN EXPOSURE, INCLUDING SUN TANNING, INDOOR TANNING, AND SUNBURNS CONTRIBUTES TO THE DEVELOPMENT OF SKIN CANCER, PRECANCEROUS SKIN LESIONS (ACTINIC KERATOSES), PREMATURE SKIN AGING, WRINKLING, BROWN SPOTS, AND CATARACTS OF THE EYES. SUNBURN HAS BEEN LINKED TO THE SUBSEQUENT DEVELOPMENT OF MELANOMA, THE MOST SERIOUS AND POTENTIALLY DEADLY FORM OF SKIN CANCER.

Here are some suggestions to minimize damage from the sun.

SUNLIGHT:

- Natural sunlight emits ultraviolet A (UVA) and ultraviolet B (UVB) radiation.
- UVA rays cause tanning and are primarily responsible for photoaging including wrinkling, brown spots, and more. UVA light intensity is the same throughout the day, all year round and can even penetrate through window glass.
- UVB rays cause sunburn and are primarily responsible for skin cancer. UVB intensity is greatest between the hours of 10 a.m. and 4 p.m. and during the summer months. There is some overlap between UVA and UVB in causing photoaging and skin cancer.
- It is true that sunlight is necessary to maintain good physical and mental health, but exposure in moderation and with appropriate protection is important.
- The sun helps the skin to produce vitamin D which the body otherwise does not naturally produce. However, only 20 minutes of sunlight three times weekly anywhere on the body, including hands, is necessary to fulfill that requirement. Additionally, many foods are now fortified with calcium and vitamin-D.

CHOOSING A SUNBLOCK:

- Choose a broad-spectrum sunblock, one that protects against UVA and UVB, with a SPF (Sun Protection Factor) of at least 30.
- The SPF refers to the ability of a sunblock to prevent sunburning due to UVB exposure; it says nothing about that product's ability to prevent tanning from UVA exposure. To date, there is no rating system for UVA exposure protection. There is no product that can completely prevent tanning.
- A product with a SPF 30 does not give twice the protection of a SPF 15. An SPF 15 absorbs 93% of UVB sunburning rays, SPF 30 absorbs 97%, and SPF 50 absorbs 98%. However, each product's ability to retard tanning could be equal depending upon its ingredients.
- The primary UVA blockers are the Benzophenones, Anthranilates, Avobenzone (Parsol 1789 and Helioplex) and Ecamsule (a.k.a. Mexoryl ^{tm} SX).
- The primary UVB blockers are PABA derivatives, Salicylates, and Cinnamates.
- Zinc Oxide and Titanium Dioxide are mineral based and sometimes referred to as chemical-free. They protect against both UVA and UVB light respectively.
- The products containing zinc and titanium may be more difficult to apply because of their thicker consistency. A useful hint in choosing these products is to apply a small, pea-sized amount to multiple different areas and rubbing it in well as opposed to applying a large quantity in a single area which would be more difficult to spread.

- Apply about 1 ounce (two tablespoons) of sunblock at least 30 minutes before sun exposure to face and all uncovered skin, including ears, neck, and backs of hands. For maximum protection, consider reapplying the product 20 minutes later. Thereafter, reapply sunblock every two hours, even on cloudy days.
- Use a water resistant sunblock when you swim or expect to be sweating and reapply afterwards.
- If you have dry skin, use a cream-based sunblock.
- If you have oily and/or acne prone skin use a gel based or a noncomedogenic sunblock. If you become irritated or allergic to sunblock chemicals, you might try using sunblocks which are labeled "chemical free" or mineral based, "sensitive skin", or products specifically marketed for babies. Plain white zinc oxide ointment is an excellent sunblock but is quite messy to use. Consider the use of sunblock sticks under eyes to minimize stinging of the eyes.
- Protect your lips with either a lip balm containing a broad-spectrum sunblock and/or lipstick.

SUN PROTECTION TIPS:

- Try to avoid the sun between 10 a.m. and 4 p.m. when the sun's rays are the strongest.
- Stay in the shade whenever possible and keep infants under six months of age out of the sun.
- Wear protective clothing: A long-sleeved shirt, pants, wide-brimmed hat and sunglasses which block UV light. You might inquire about specially woven UV rated clothing and consider extra tinting for your car windows.
- Apply sunblock when near window glass such as driving or sitting by a window as UVA light passes through window glass causing photoaging and skin cancer. Also close car sunroofs.
- Take special precautions when the National Weather Services daily ultraviolet (UV) radiation index predicts UV exposure levels of moderate and above (5-10) or when near surfaces that reflects the sun's rays, such as water, snow and sand. Whenever possible, stay in the shade.

INDOOR TANNING: POTENTIAL HEALTH RISK

- Artificial indoor tanning is not safer than natural sunlight and may be more harmful. There is no such thing as a healthy tan. A tan is a sign of injury; the skin's response to ultraviolet radiation.
- Indoor tanning beds emit only a small amount of UVB burning rays, but emit an intense dose of UVA that is 5-10 times as strong as natural sunlight.
- UVA penetrates more deeply into the skin than UVB, damaging the skin's elasticity.
- Thirty minutes of an indoor tanning bed is equal to a day at the beach.
- Some medications that you may be applying to your skin or taking orally may make you extra sensitive to ultraviolet light causing you to develop a severe burn.
- Indoor tanning, which is primarily UVA light, can cause photoaging; including wrinkles, age spots, and affect the immune system, but most importantly can cause skin cancers, including potentially life threatening melanoma.
- The most rapidly increasing incidence of skin cancer is in young women who have been indoor tanning and/or who have had severe sunburns. Individuals who utilize tanning beds are intentionally putting their health at risk.
- If you would like to have a tan, use one of the sunless self-tanning creams, sprays, or lotions, but you must also use a sunscreen as these products are not photo protective.

THE AMERICAN ACADEMY OF DERMATOLOGY, AMERICAN MEDICAL ASSOCIATION, CENTERS FOR DISEASE CONTROL, AND THE FOOD AND DRUG ADMINISTRATION DISCOURAGE THE COSMETIC USE OF TANNING BEDS AND SUNLAMPS. THE WORLD HEALTH ORGANIZATION HAS CONCLUDED THAT ARTIFICIAL TANNING DEVICES ARE CARCINOGENIC (CANCER PRODUCING) IN HUMANS AND LIST THEM IN THE SAME CATEGORY WITH ASBESTOS AND CIGARETTES AS HEALTH HAZARDS.