

# Skin Cancer Prevention and Early Detection

*AT-A-GLANCE*

1995



Courtesy of the University of Texas M.D. Anderson Cancer Center

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*“Skin cancer now appears to be as common as all other types of cancer combined.”*

*Dr. Martin A. Weinstock, Director, Brown University Dermatoepidemiology Unit*

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**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES**  
Public Health Service

Centers for Disease Control and Prevention



## Skin Cancer

Skin cancer is the most common and most rapidly increasing form of cancer in the United States. One in six Americans will develop skin cancer in his/her lifetime. An estimated one million new cases of basal and squamous cell carcinomas will occur each year; it is estimated that 34,100 new cases of melanoma will occur in 1995.

Skin cancers will claim the lives of approximately 9,300 people in 1995: 7,200 from malignant melanoma and 2,100 from other skin cancers.

The three major types of skin cancer are basal cell and squamous cell carcinoma, and the more serious malignant melanoma.

If detected and treated early, basal cell carcinoma has a cure rate greater than 95 percent. Untreated, it can cause considerable damage and disfigurement by spreading to underlying structures, although it usually does not spread through the bloodstream like other cancers. Basal cell cancer is usually a slow-growing, raised, translucent, pearly nodule that may crust, ulcerate, and possibly bleed without treatment. It is found mostly on the face, neck, hands, and trunk.

Squamous cell carcinoma is also 95 percent curable if detected and treated early. This tumor is a raised, red or pink scaly nodule or wart-like growth, typically appearing on the face, hands, or ears. It can grow in size and spread to other parts of the body. Squamous cell carcinoma is two to three times more common in men than in women.

Basal cell and squamous cell skin cancers, often referred to as nonmelanoma skin cancer, can lead to substantial morbidity, but mortality rates are low. Although nonmelanoma skin cancers occur more frequently, malignant melanoma is responsible for more than 75 percent of all skin cancer deaths.

Malignant melanoma usually begins as a mottled, light brown, or flat black blemish with irregular borders that may turn shades

of red, blue, or white. It can develop from an existing mole or may appear where no mole existed. A changing or growing mole or a new mole should be checked promptly by a physician. Melanoma can spread to other organs, with lungs and liver the most common sites. It can result in death, but can be treated successfully if detected early. Early, thin lesions are associated with excellent survival rates, whereas thicker lesions have a higher chance of metastasis and death. A person who has had melanoma has a five to nine times greater risk of developing another melanoma.

In this country, the lifetime probability of developing melanoma is currently 1 in 100. If current trends continue, by the year 2000 the lifetime risk will climb to 1 in 75. Mortality rates are also increasing.

### SKIN: The Package You're In

#### Epidermis

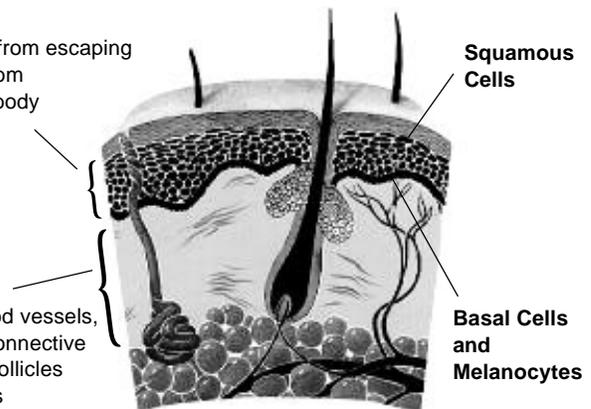
Keeps fluids from escaping and germs from entering the body

#### Squamous Cells

#### Dermis

Contains blood vessels, nerves and connective tissues, hair follicles and oil glands

#### Basal Cells and Melanocytes



#### Did You Know?

- Though tough and very complex, skin is really "paper" thin – varying from 1/25 to 1/8 of an inch deep!
- It only takes about an ounce of sunscreen to protect exposed skin from the sun.

Modified from the American Academy of Dermatology

## Who is at Risk?

Skin cancer is more common among individuals with lightly pigmented skin. Individuals with skin types that are more sensitive to the sun, such as those who easily burn and have little ability to tan, tend to be at greater risk for skin cancer due to the higher likelihood of acute sunburns when exposed to ultraviolet radiation (see “Description of Skin Phototypes” table).

Exposure to sunlight is likely to be harmful, particularly if it results in sunburn. Current data suggest that cumulative sunlight exposure over a prolonged period is important in the development of nonmelanoma skin cancer. Episodic, relatively infrequent exposure to a large amount of sunlight sufficient to cause sunburn is believed to play a major role in development of melanoma.

Skin cancer incidence rates for whites are more than 10 times higher than the rates for blacks. The National Cancer Institute’s Surveillance, Epidemiology, and End Results 1986–1990 data suggest that women, under the age of 40, have higher age-specific incidence rates for melanoma than men, while men over the age of 40 have a higher incidence rate.

### Melanoma Skin Cancer Risk Factors Include:

- adulthood
- blond or red hair
- blue eyes
- changed or persistently changing mole
- Caucasian race
- fair complexion
- freckles
- history of melanoma
- history of melanoma in first degree relatives
- immunosuppression
- inability to tan
- one or more large or irregularly pigmented lesions
- severe sunburns in childhood
- sun sensitivity
- presence of a congenital mole

### Description of Skin Phototypes

Skin Phototypes	Skin Color in Unexposed Area	Tanning History
Never Tans/ Always Burns	pale or milky white; alabaster	develops red sunburn; painful swelling; skin peels
Sometimes Tans/ Usually Burns	very light brown; sometimes freckles	usually burns; pinkish or red coloring appears; can gradually develop light brown tan
Usually Tans/ Sometimes Burns	light tan, brown, or olive; distinctly pigmented	rarely burns; shows moderately rapid tanning response
Always Tans/ Rarely Burns	brown, dark brown, or black	rarely burns; shows very rapid tanning response

Courtesy of the U.S. Environmental Protection Agency

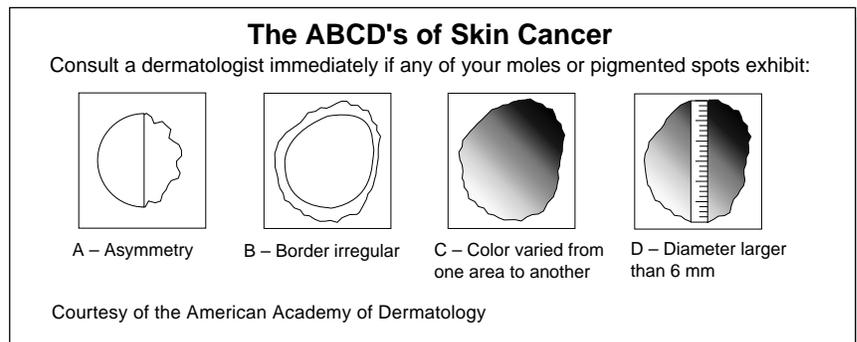
## Prevention

Reducing death and morbidity from skin cancer is possible through education efforts that influence modifiable risk factors regarding sun exposure.

Prevention education is important for children and adults; sunburns in childhood, in fact, significantly increase the risk of developing skin cancer later in life. Because of this risk, special efforts should be made to protect children from the sun. Sun exposure during childhood (up to 18 years old) is estimated to account for almost 80 percent of one's total lifetime sun exposure. Children have the greatest lifetime potential to benefit from positive sun protection habits. Healthy behavior patterns established in early childhood often persist throughout life. Educating parents and caregivers will help to shape healthy attitudes and behaviors regarding activities in the sun.

Parents and caregivers are in a unique position to influence health values and

practices that promote the health of young children. Parents, health care providers, schools, and community organizations can develop and provide educational strategies to reinforce sun protection behaviors (altering time of outdoor activities, using shade while outdoors) and change attitudes about sun exposure. Examination of the child's skin by a family member is encouraged for the early detection of melanoma. A strategy promoted by many as an assessment tool for melanoma is the ABCD approach to pigmented lesion assessment.



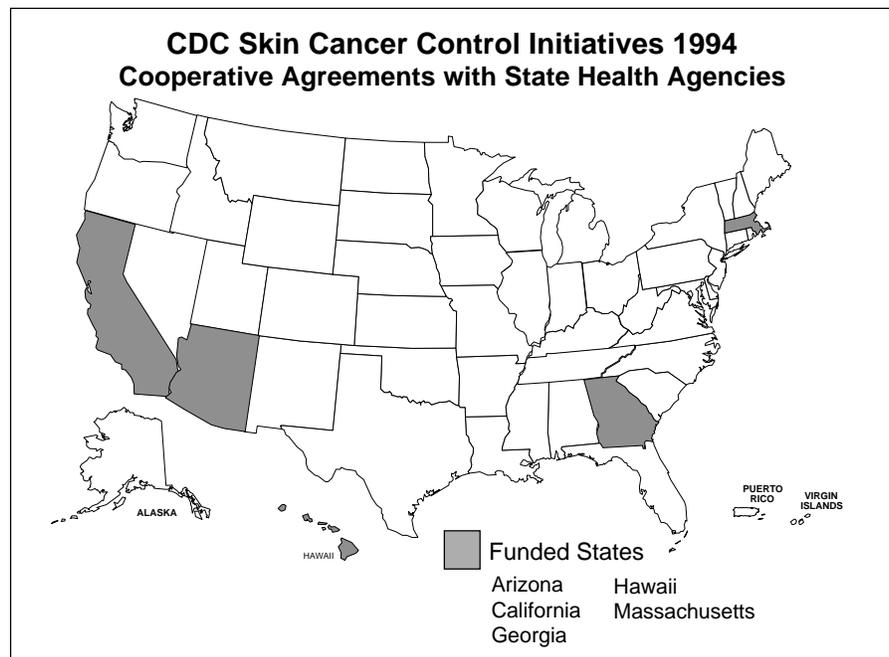
## CDC Program Activities

### National Skin Cancer Prevention Strategies

With appropriations of \$1.8 million in fiscal year 1995, CDC continues its skin cancer prevention and education initiative. In May 1994, CDC joined the American Academy of Dermatology (AAD) to kick off Melanoma/Skin Cancer Detection and Prevention Month with a national call to action to strengthen efforts to prevent, detect, and treat skin cancer.

For the last ten years, AAD has sponsored national programs, which include free public screenings, national media campaigns, and professional education efforts to alert the public and health care providers about the need for sun protection and early detection of skin cancer.

One of CDC's 1994 initiatives included a cooperative agreement award to AAD to increase public awareness of skin cancer risk, to provide technical



assistance to skin cancer primary prevention demonstration projects, and to develop an agenda and action plan to address skin cancer prevention. Future collaborative efforts with AAD include assessing the level of education and practices of health care providers about skin cancer risk factors, prevention, and detection; and strengthening surveillance of skin cancer incidence.

### State and Federal Partnerships

Another CDC initiative in 1994 included funding five State health departments to develop, implement, and evaluate innovative strategies for skin cancer prevention education. Arizona, California, Georgia, Hawaii, and Massachusetts will use educational models to develop and evaluate education strategies that address prevention of skin cancer. The projects are aimed at increasing the awareness of parents and caregivers of young children on how to prevent skin cancer.

States implement these strategies in collaboration with community advisory boards, elementary school education departments, local and county health departments, parent groups, day care centers, voluntary organizations, university medical schools, cancer research institutes, dermatologists, and the American Cancer Society.

CDC is also working in partnership with the U.S. Environmental Protection Agency and other groups to develop public information messages on skin cancer issues. The ultraviolet radiation index developed by the National Weather Service is used to convey these messages. This index predicts intensity of ultraviolet radiation from the sun on the earth on a given day (see "What Does The Index Mean?").

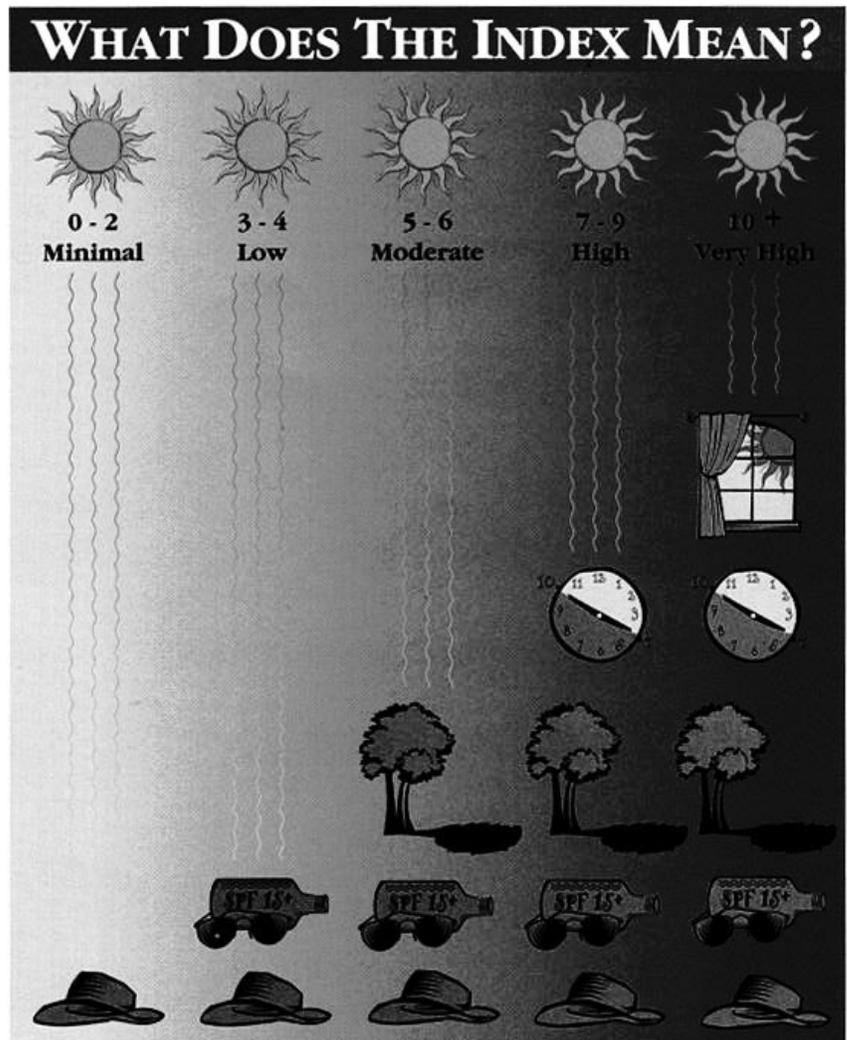
### Professional Education Activities

CDC funds two Prevention Center projects, one at the University of Texas (UT) Health Science Center at Houston and a second at the University of North Carolina (UNC) at

Chapel Hill. Each project will develop or refine and evaluate a nurse curriculum. The UT program is an education project for public health nurses providing classroom didactic and clinical skills-building components related to skin cancer prevention and early detection. UNC developed and conducted a 4-hour continuing education program, utilizing the teleconference method, for public health nurses to increase their knowledge of skin cancer prevention and early detection.

### The Australian Experience

Australia leads the efforts in the prevention and early detection of skin cancer. In Australia, the incidence of melanoma is high and is continuing to rise at an annual rate of 5 to 6 percent. To address this public health issue, the Anti-Cancer Council of Victoria



Courtesy of the U.S. Environmental Protection Agency, Be Sun Wise.

developed and implemented a broad-based initiative in 1980, known as the SunSmart Program. It includes strategies aimed at modifying (1) attitudes, beliefs, and behaviors that affect individual risk, and (2) the social and physical environments that affect community risk. Strategies include the following:

- developing widely accepted and utilized community education programs;
- influencing the media, such as women's magazine and sports editors, regarding their position on sun protection;
- conducting an annual large-scale media campaign;
- promoting school-based programs such as tree planting programs; building shade structures; ensuring that students and staff wear hats and apply sunscreen; and modifying breaks, lunch periods, and sports schedules to minimize sun exposure;
- collaborating with occupational health and safety groups, local government authorities, fashion

houses, designers, home economics students, and life guard associations;

- conducting SunSmart Fashion Parades and contests;
- ensuring that appropriate sunscreens are sold at pools and beaches;
- getting sales taxes removed from sunscreen sales, and ensuring that low-cost, effective generic brands are available in supermarkets;
- printing an annual sunscreen price list, including low-cost sunscreen products;
- participating in successful passage of legislation to control ozone-depleting substances, in partnership with governmental agencies.

The Australian Cancer Society and the Australian College of Dermatologists work closely to provide up-to-date resources and training for physicians to improve the early detection of skin cancer.

*“Melanoma writes its message in the skin with its own ink, and it is there for all to see. Unfortunately, some see but do not comprehend.”*

*Neville Davis, M.D., “Modern Concepts of Melanoma and Its Management.” Annals of Plastic Surgery*

For more information, please contact the Centers for Disease Control and Prevention, Mail Stop K 64, 4770 Buford Highway NE, Atlanta, GA 30341–3724, (770) 488-4751.