

Cancer: Caring and Conquering

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Be Sun Safe! Understand Skin Cancer Prevention and Detection

Everyone is at risk for skin cancer! The American Cancer Society (ACS) emphasizes that sun safety is not just a “beach thing.” Sun exposure adds up day after day while you are outdoors gardening, fishing, hiking, sailing, or simply walking to and from the car. Skin cancer is the most commonly occurring cancer in the United States. The incidence of melanoma has increased by 2,000% since 1930, and one person dies each hour from the disease (Poole & Guerry, 2005). More than

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1 million new cases of basal cell or squamous cell skin cancer occur each year. The National Cancer Institute’s Surveillance, Epidemiology and End Results program (SEER) estimates that the number of new melanoma cases among both genders in 2005 will be 59,580, with 33,580 cases in men. Of the melanoma cases diagnosed, 7,770 people are expected to die from this cancer in 2005 (Jemal et al., 2005). Non-melanoma skin cancers are highly curable, whereas melanoma is more difficult to treat and more fatal. However, the 5-year survival rate for melanoma is 91% for all races (Jemal et al., 2005).

Melanoma has been known since the time of Hippocrates, who called it a black tumor (melas=black; oma=tumor). However, melanoma was first reported in Western medical literature by English physician John Hunter in 1787. Hunter documented and preserved a melanoma tumor taken from a 35-year-old man’s lower jaw. In 1968, a U.S. pathologist confirmed that the specimen, preserved at a medical museum in England, was indeed a melanoma (Poole & Guerry, 2005).

Most people do not realize that the skin is the body’s largest organ, responsible for shielding the body from excessive light and extreme temperatures. The outer layer of the skin, the *epidermis*, is where most skin cancers develop. *Melanocytes* are in the lower region of the epidermis; these cells produce a dark pigment

called *melanin*, which contributes to skin coloring. Melanocytes feed the melanin pigment to cells directly above them, the *keratinocytes* (Poole & Guerry, 2005).

Types of Melanoma

Melanoma, the uncontrolled growth of melanocytes in one spot, should not be confused with squamous cell or basal cell skin cancer. Several types of melanoma have been identified. *Superficial spreading melanoma* is the most common, composing 70% to 80% of all cases. It is found most frequently on women’s legs and on the backs of people of both genders; however, it can arise anywhere on the body, including areas never exposed to the sun. Superficial spreading melanoma often develops from an existing mole, but it can develop from unblemished skin. It appears as a brown-black spreading stain, about a quarter of an inch in diameter (Poole & Guerry, 2005).

Nodular melanoma composes about 10% of melanoma cases. This type of melanoma is found in the same locations as superficial spreading melanoma and also frequently develops from an existing mole. Nodular melanoma is more common in men than in women. It is dome-shaped and raised in appearance, and may resemble a blood blister. Both nodular and superficial spreading melanoma appear to be triggered by a combination of excessive intermittent sun exposure and skin sensitivity (Poole & Guerry, 2005).

Lentigo maligna melanoma is

less common than the other two types of melanoma; this type is usually seen in older people. It appears most commonly on the face and other parts of the body that have been chronically exposed to the sun. Lentigo maligna melanoma develops after many years of heavy sun exposure, appearing as a dark and irregularly shaped stain. This type of melanoma does not develop from moles (Poole & Guerry, 2005).

Acral lentiginous melanoma appears most frequently on the palms of the hands or the soles of the feet, on the undersurface of the fingers or toes, and under the nails. The thumbs and great toes are the digits most often affected. Although most of the melanomas previously described occur predominantly in white people, this type of melanoma occurs in approximately the same low frequency among whites and people of color. Acral lentiginous melanoma is not attributed to sun exposure (Poole & Guerry, 2005).

Another type of melanoma not related to sun exposure is *mucosal melanoma*, which appears on the mucous membranes, such as inside the mouth and in the anal-genital region. The cause of this rare form of melanoma is unknown. *Ocular melanoma*, another uncommon type of melanoma, occurs in the back of the eye. This type of melanoma is speculated to arise when ultraviolet (UV) radiation, especially in childhood, passes through the front of the eye and triggers melanoma later in life. It most often appears as a small "freckle" beneath the retina that can grow and spread to other areas of the body (Poole & Guerry, 2005).

Risk Factors

A very strong association exists between skin exposure to UV light or repeated sun burns, and the development of melanoma. The UV part of the sunlight spectrum is responsible for over 90% of skin cancers. Both prolonged skin exposure and a history of repeated severe sunburns have been implicated in skin cancer occurrence. Additional factors with moderate associations to the development of

skin cancer are blue/green eye color vs. all others, light or fair skin vs. olive/dark skin, and family history (first degree relative). Also, a weak association has been found between red/blond natural hair color vs. black hair color (Colditz et al., 2000).

Of additional importance is the fact that sunlamps and tanning booths are just as harmful to skin as the UV rays from the sun. Other risk factors associated with melanoma include family or personal history of melanoma, multiple melanocytic nevi (atypical or dysplastic moles), advancing age, giant congenital melanocytic nevi, xeroderma pigmentosum, and chronic immunosuppression (Volker, 2004). The risk associated with each factor in and of itself is not great, but people who possess several risk factors may be at dramatically increased risk for developing melanoma (Poole & Guerry, 2005).

Prevention: Slip, Slop, Slap

The ACS recommends the following:

- *Slip* on a shirt: Choose shirts and pants to protect as much skin as possible.
- *Slop* on sunscreen: Choose a sunscreen with a sun protection factor (SPF) of 15 or higher.
- *Slap* on a hat: Choose a hat that shades the face, neck, and ears.
- *Wrap* on sunglasses: Protect your eyes from UV rays.
- *Limit* sun exposure: Stay out of the sun between 10 am and 4 pm, when the sun's UV rays are the strongest (ACS, 2002).

The usefulness of sunscreens in preventing melanoma has come into question recently because sunscreens enhance susceptibility by allowing people to increase sun exposure without burning (Volker, 2004).

Detection and Diagnostic Evaluation

Early detection of skin cancer is of utmost importance because most types can be cured if they are treated in the early stages. Melanoma does not begin as malignant, but goes through sev-

eral stages of transformation to become malignant. The *radial growth phase* comprises two steps: (a) the melanoma cells are entirely contained in the epidermis and the cancer is *in situ* (meaning *in place*), and (b) the invasive radial growth phase occurs with the melanoma cells barely invading the dermis, but they do not flourish there. With the next phase of growth, the *vertical phase*, the melanoma begins to grow as a tumor in the dermis. During this stage, the tumor may spread. To prevent it from becoming fatal, the growth must be obliterated while it is in its flat (radial growth) phase, before the lumpy (vertical growth) phase begins (Poole & Guerry, 2005).

For detection of melanoma in its early stages, it is important to examine the lesion and understand the importance of the changes occurring within it. The ACS recommends that adults practice skin self-assessment monthly and have suspicious lesions evaluated promptly. The "ABCDE" rule is used to remember the warning signs of melanoma: **A** = asymmetry; **B** = irregular borders; **C** = color; **D** = growing diameter of a lesion (ACS, 2005) and **E** = elevation (Poole & Guerry, 2005). Saraiya and colleagues (2004) noted that among adults aged 18 and older, 14.5% reported ever having had a skin cancer screening examination by a doctor. Of these, only 8% reported having had a recent screening for skin cancer by a health care provider.

Uninsured adults were significantly less likely to have a recent skin examination as compared to insured adults (3.5% compared to 9.1%). Since 1985, the American Academy of Dermatology (AAD) has operated a free screening program. The AAD can be contacted concerning times and locations of screenings, or the organization's Web site (www.aad.org) can be accessed to find a program in any area (Poole & Guerry, 2005).

Staging System for Melanoma

If melanoma is detected, the disease should be staged. A com-

pletely revised staging system for cutaneous melanoma was developed in 2003. The changes were validated with a prognostic factor analysis consisting of 17,600 patients with melanoma from prospective databases. Results from the prognostic factors analysis, as well as expert opinion from melanoma clinicians, were used by the American Joint Committee on Cancer (AJCC) Melanoma Staging Committee to create an evidence-based melanoma staging system that was published in 2001. The staging system became official with the publication of the sixth edition of the *AJCC Cancer Staging Manual*, where it can be found (Balch et al., 2004).

The primary difference in the definitions of *clinical* as compared to *pathological stage grouping* is whether the regional lymph nodes are staged by clinical/radiologic examination or by pathologic examination after partial or complete lymphadenectomy. Clinical stages I and II are confined to those patients who have no evidence of metastasis, either regionally or at distant sites. Patients with stage II melanoma have clinical or radiologic evidence of regional lymph node metastasis (either in regional lymph nodes or intralymphatic metastasis, manifesting as either satellite or in-transit metastasis). Patients with clinical stage IV have metastasis at some distant site and are not substaged (Balch et al., 2004).

In contrast to clinical staging, greater qualitative and quantitative accuracy is possible in defining distinctive prognostic subgroups when combining pathologic information about the primary melanoma and the results of pathologic examination of the regional lymph nodes after complete or sentinel lymphadenectomy. Pathological stages I and II melanoma consist of those patients who have no evidence of regional or distant metastases. Patients with pathological stage III melanoma have pathological evidence of regional metastases. Patients with pathological stage IV melanoma have histologic documentation of metastases at one or

more distant sites. It is beyond the scope of this column to present a more detailed presentation of melanoma staging; however, an excellent, in-depth discussion of the staging system for cutaneous melanoma can be found in an article by Balch and colleagues (2004).

Treatment

All skin cancers must be removed. Melanoma is curable when completely removed before it develops the capacity to spread. Melanoma treatment approaches depend on disease stage and includes wide local excision, sentinel lymph node biopsy, or therapeutic lymph node dissection. Adjuvant chemotherapy and immunotherapy may be necessary for stage II-IV disease. Radiation therapy is useful for palliating symptomatic metastatic disease (Volker, 2004). It is beyond the scope of this column to provide an extensive overview of treatments for melanoma; however, an excellent book for the public and health care providers is *Melanoma: Prevention, Detection, and Treatment* (Poole & Guerry, 2005). The authors provide an understandable explanation of the disease, diagnosis, and treatment options. It can be obtained by contacting the Melanoma International Foundation (www.melanomaintl.org or 866-463-6663).

Nursing Implications

Because of the preventable nature of skin cancer, the nurse's role in teaching prevention and early detection to the public cannot be overemphasized. People who develop one skin cancer are particularly vulnerable to developing more, and they must learn to protect their skin from further exposure to UV light. Because prevention must start early, teaching young children to use appropriate sunscreen, and avoid overexposure to the sun and sunburns can be part of any school health curriculum. Health fairs also should include this information for all ages. Medical-surgical nurses can teach melanoma prevention as part of their clinical care, especially if employed in

“sun-worshipping” states, such as in the South. Moreover, as they assess the information that patients provide about their lifestyle, nurses should provide appropriate teaching. For example, encouraging golfers or tennis players to wear hats and sunscreen should be part of nursing practice. Additionally, nurses need to ensure that they employ the same prevention and early detection guidelines within their families.

When caring for patients who have been treated for melanoma, nurses must assess for special needs. Although most people who have a wide surgical excision do not experience subsequent problems, a regional lymph node dissection could cause lymphedema and increase the risk for infection in the affected extremity.

In closing, I wish you the best of times this summer. Enjoy all your favorite activities, but use sunscreen, wear a hat, check your skin for changes, and check the skin of your family members — lives may depend on it! ■

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