



## **Fact Sheet on Melanoma**

*Prepared by the UNM Cancer Center, summer 2011*

### ***What Is Melanoma?***

- Melanoma is the most lethal form of skin cancer. It occurs when melanocytes, one of two major types of skin cells in the human body, divide and grow in abnormal ways.
- Melanoma tumors are usually brown or black, but can sometimes be non-pigmented and appear pink, tan or even white.
- Melanomas can occur anywhere on the skin, but are more likely to start in certain locations. The trunk (chest and back) is the most common site in men. The legs are the most commonly affected site in women. However, many women get melanoma on the trunk, and many men get melanoma on the legs. The neck and face are other common sites. Among people with darker skin, melanoma is more likely to appear on the palms of the hands, soles of the feet or under the nails.

### ***Incidence and Mortality***

- New Mexico has among the highest rates of melanoma in the nation, especially among men. Rates of melanoma in the state are rising; in fact, they have more than doubled from 1975 to today, according to the NM Department of Health.
- Nationwide, melanoma rates have been increasing since the 1980s. The reasons for this are unclear and contested, though Dr. Marianne Berwick believes that earlier detection plays a key role. This view is supported by the fact that overall mortality rates have remained roughly the same, despite the increase in incidence.
- Approximately 70,000 people in the US were diagnosed with melanoma in 2010, and around 8,700 died of the disease, according to the American Cancer Society.
- In New Mexico, about 320 new cases of melanoma are diagnosed each year, and around 49 people in the state die of the disease, according to the NM Department of Health.
- Melanoma is one of the most common cancers among young people. It is the leading cause of cancer death in women aged 25 to 30, and is second only to breast cancer in women aged 30 to 34, according to the National Cancer Institute.

### ***Risk Factors and Prevention***

- Melanoma is strongly linked to sun exposure, though the disease results from complex interactions between genes, the environment and other factors (such as the immune system) that are not yet fully understood.
- Albuquerque has one of the highest levels of UV radiation (a known human carcinogen) in the nation. Exposure to UVA and UVB rays is a primary risk factor for melanoma.
- While some melanomas are linked to cumulative sun exposure, many melanomas develop from intermittent sun exposure, for example, the kind that people get on vacations or on the weekends. According to Dr. Marianne Berwick, this “blast of sunshine” on unadapted skin is a major risk factor for melanoma.
- Non-environmental risk factors include light skin and eyes and the presence of many and/or irregular freckles and moles on the body. Though melanoma is most associated with light-skinned people, people with all different skin tones can develop the disease, and everyone should take appropriate precautions.
- The best protection against melanoma is to use common sense. Wearing dark, loose-fitting clothing, a large-brimmed hat and UV-blocking sunglasses are among the most effective precautions people can take. Avoiding sun exposure as much as possible during the most intense hours of the day (10am to 4pm) and knowing “when you’ve had enough” are also smart ideas.
- The proper use of sunscreen is likewise an important way to protect your skin. Sunscreens should be applied half an hour before going out in the sun and reapplied half an hour into sun exposure. Use broad-spectrum sunscreens (designed to block both UVA and UVB rays) that have an SPF of 15 or higher. When applying sunscreen, use much more than you think you need! Most people apply far too little sunscreen, getting only a fraction of the indicated SPF.
- The FDA recently issued new guidelines for sunscreens that give consumers a more accurate indication of UVA and UVA protection, and prevent manufacturers from claiming their sunscreens are waterproof or sweatproof.
- While sunscreens are useful, they are not a cure-all. In fact, sunscreens can actually be harmful when they lead people to think they’re “safe” in the sun and invite much longer sun exposure than would otherwise be tolerated.
- Indoor tanning can lead to melanoma. A recent study conducted by Dr. Marianne Berwick and colleagues found that young adults who use tanning beds have almost a threefold risk of melanoma.

### ***Early Detection and Treatment***

- The best way to detect melanoma is to perform full-body skin exams. These can be done on your own, by a loved one or by a health care professional—or, ideally, a combination of all three. Self-exams should be done every month, especially if you are a fair-skinned person with moles or freckles.
- The most important warning sign for melanoma is a new spot on the skin or a spot that is changing in size, shape or color. The American Cancer Society recommends using the *ABCD* rule in checking your skin. Tell your doctor if you notice any of the following:
  - *A is for Asymmetry*: One half of a mole or birthmark does not match the other.
  - *B is for Border*: The edges are irregular, ragged, notched or blurred.
  - *C is for Color*: The color is not the same all over and may include shades of brown or black, or sometimes patches of pink, red, white or blue.
  - *D is for Diameter*: The spot is larger than a quarter-inch (about the size of a pencil eraser). However, melanomas can sometimes be smaller than this.
- In most cases, melanoma is relatively curable if detected early. Ninety percent of melanomas diagnosed today in the US are treated successfully by early surgery.
- However, advanced forms of melanoma are difficult to treat. Once melanoma has metastasized into other areas of the body, prognosis is very poor. Chemotherapy is used to treat metastatic melanoma, but its success remains limited.

### ***About Dr. Marianne Berwick and Melanoma Research at the UNM Cancer Center***

- Marianne Berwick, PhD, MPH, is an internationally recognized melanoma researcher. She has led major studies examining the relationship between sunscreen usage and melanoma risk; the relationship between duration of sun exposure and melanoma mortality; the impact of indoor tanning on melanoma risk; and the complex interactions between genetic and environmental risk factors. Dr. Berwick is co-leader of the Cancer Population Sciences Program at the UNM Cancer Center, as well as Associate Director for Population Sciences and Chief of the Division of Epidemiology in UNM's Department of Internal Medicine.
- UNM Cancer Center researchers are currently carrying out a number of research studies relevant to melanoma. For example, Laurie Hudson, PhD, College of Pharmacy, is examining how melanocytes respond to arsenic exposure (another suspected risk factor for melanoma); Graham Timmins, PhD, College of Pharmacy, was recently awarded a patent for a new method for measuring DNA damage in the skin resulting from UVA exposure; and Yubin Miao, PhD, College of Pharmacy, is developing novel radiolabeled peptides for melanoma diagnosis and treatment.
- Albuquerque resident Ellen King, a melanoma survivor, is a key supporter of melanoma research at the UNM Cancer Center. Donations by Mrs. King are funding the collection and banking of melanoma tumors and DNA samples, which form the basis for melanoma research at the Center now and in the future.