

# Melanoma

**M**ELANOMA IS THE MOST DANGEROUS FORM OF SKIN CANCER. Regardless of where on the body it occurs, melanoma originates from normal pigment cells called **melanocytes**. These melanocytes produce **melanin**, the pigment that is responsible for giving skin its color and that protects the body from damage caused by the sun's ultraviolet rays. Like other cells in the body, melanocytes can transform into cancerous cells, and when this transformation occurs the result is development of melanoma. An article on treatment of melanoma appears in the June 8, 2011, issue of JAMA.

## CAUSES

The main risk factor for melanoma is **UV** (ultraviolet) light, which can come from sunlight or a tanning bed. Fair-skinned people (especially those with red or blond hair and those who tend to sunburn frequently), people with many abnormally shaped moles (**dysplastic nevi**), and people with family members who have had melanoma are at higher risk of developing melanoma.

## SYMPTOMS AND DIAGNOSIS

Melanomas may not cause symptoms and are frequently found by a doctor during a routine skin examination. Less commonly, melanomas may bleed, itch, or cause pain. The **ABCDE** mnemonic (right) describes early changes in the shape or color of an existing mole that are suggestive of melanoma. If these occur, you should see a physician. A **biopsy** (removal of the abnormal mole) is the most common way to find out if a suspicious-looking mole is melanoma. This may be followed by imaging tests to exclude metastases.

## PREVENTION AND TREATMENT

The risk of developing melanoma may be reduced by avoiding exposure to UV light. This can be accomplished by wearing sun-protective clothing (such as a hat, long-sleeved clothing, and sunglasses), avoiding direct exposure to the sun between 9 AM and 3 PM, avoiding tanning beds, and using sunscreen. Sunscreen that protects against both UVA and UVB light and with an **SPF** (sun protection factor) of 30 or greater should be used. The American Cancer Society recommends skin examination by a medical professional every 3 years for people aged 20 to 40 years and every year for those who are older. Persons at higher risk should carefully examine their own skin monthly and be frequently examined professionally. When discovered early, melanoma can usually be cured with surgery. After removal, management may include **immunotherapy** with interferon, close monitoring, or participation in a clinical trial. Once melanoma spreads (**metastasizes**) throughout the body, survival is usually shortened. Treatment of metastatic melanoma may include further surgery, radiation therapy, **chemotherapy** with a medicine like dacarbazine, immunotherapy with a medicine such as interleukin 2 or ipilimumab, or participation in a clinical trial. New treatments for melanoma are being studied in clinical trials, including medications targeting tumor growth pathways, blood vessel production, and the immune system.



JAMA. 2004;292(22):2771-2776.

## FOR MORE INFORMATION

- National Library of Medicine [www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001853/](http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001853/)
- National Cancer Institute [www.cancer.gov/cancertopics/pdq/treatment/melanoma](http://www.cancer.gov/cancertopics/pdq/treatment/melanoma)
- American Cancer Society [www.cancer.org/Cancer/SkinCancer-Melanoma/DetailedGuide/index](http://www.cancer.org/Cancer/SkinCancer-Melanoma/DetailedGuide/index)

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Sources: National Library of Medicine and National Cancer Institute at the National Institutes of Health

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