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## Malignant Melanoma

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What is it?



Melanoma is a cancer of the pigment producing cells in the skin, known as melanocytes. Cancer is a condition in which one type of cell grows without limit in a disorganized fashion, disrupting and replacing normal tissues and their functions, much like weeds overgrowing a garden. Normal melanocytes reside in the outer layer of the skin and produce a brown pigment called melanin, which is responsible for skin color. Melanoma occurs when melanocytes become cancerous, grow, and invade other tissues.

Melanoma begins on the surface of the skin where it is easy to see and treat. If given time to grow, melanoma can grow down into the skin, ultimately reaching the blood and lymphatic vessels, and spread around the body (metastasize), causing life-threatening illness. It is curable when detected early, but can be fatal if allowed to progress and spread. The goal is to detect melanoma early when it is still on the surface of the skin.



***Melanoma***

### **What causes it?**

It is not certain how all cases of melanoma develop. However, it is clear that excessive sun exposure, especially severe blistering sunburns early in life, can promote melanoma development. There is evidence that ultraviolet

radiation used in indoor tanning equipment may cause melanoma. The risk for developing melanoma may also be inherited.

## Who gets it?

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Anyone can get melanoma, but fair-skinned sun-sensitive people are at a higher risk. Since ultraviolet radiation from the sun is a major culprit, people who tan poorly, or burn easily are at the greatest risk.

In addition to excessive sun exposure throughout life, people with many moles are at an increased risk to develop melanoma. The average person has around 30 moles, and most are without significance; however, people with more than 50 moles are at a greater risk. In addition to the number of moles, some people have moles that are unusual and irregular looking. These moles (nevi) are known as **dysplastic** or **atypical** moles. People with atypical moles are at increased risk of developing melanoma. Melanoma also runs in families. If a relative such as a parent, aunt or uncle had melanoma, other blood relatives are at an increased risk for melanoma. The following factors help to identify those at risk for melanoma:

- ☞ Fair skin
- ☞ A history of sunburns
- ☞ More than 50 moles
- ☞ Atypical moles
- ☞ Close relative who have had melanoma

Anyone can develop melanoma, but people with one or more of the risk factors are more likely to do so. Periodic skin examinations by a dermatologist can truly be life saving.



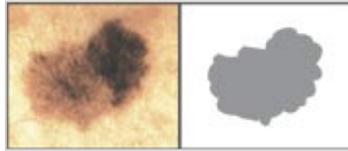
Melanoma

### What to Look For?

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Melanoma can occur anywhere on the skin or the nails, even in places not directly exposed to the sun like the eyes, mucous membranes (mouth and genitals), or internal organs. It is most common on the backs of men and legs of women. Melanoma is usually brown or black in color, but sometimes, though rare, may be red, skin-colored, or white. It can arise from a pre-existing mole, or appear on previously normal skin. Melanomas grow slowly; therefore, growing, changing, or irregular lesions should arouse suspicion. When looking at a spot on the skin it is helpful to apply the ABCD rules:

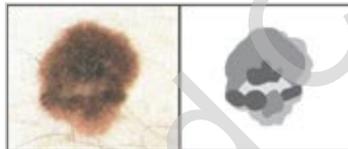
## The ABCDs of Melanoma



**Asymmetry** - Meaning one half is different than another. Draw an imaginary line through the middle of the lesion, either up and down or side to side. Are the two sides the same size and shape (symmetric)? Melanomas are usually asymmetric.



**Border Irregularity** - The edge, or border, of melanomas are usually ragged, notched, or blurred.



**Color** - Benign moles can be any color, but a single mole will be only one color. Melanoma often has a variety of hues and colors within the same lesion.

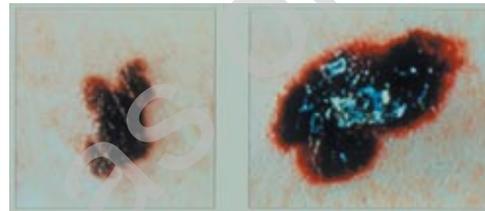


**Diameter** - Melanomas continue to grow, while moles remain small. Is the lesion larger than a pencil eraser (6mm)?

## What treatment is available?

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The best treatment is early detection. A quick look from a dermatologist can confirm whether a lesion is suspicious for melanoma. If so, the next step is to perform a biopsy. This involves numbing the area and removing the entire lesion, or a portion, which can be examined under a microscope. This simple, quick procedure is performed in the dermatologist's office. If a melanoma is detected, treatment is guided by how deep the melanoma penetrates the skin.



Treatment for melanoma begins with the surgical removal of the melanoma and some normal-looking skin around the growth. Removal of the normal-looking skin is known as taking margins, and is done to be sure no melanoma is left behind. Early melanoma limited to the outermost layer of the skin (the epidermis) is known as melanoma in situ (in place), and simple surgical removal produces virtually a 100 percent cure rate. If left untreated, the melanoma grows deeper in the skin and is more likely to produce a life-threatening situation.

Deeper melanomas are more likely to reach a blood vessel or lymphatic channel and spread. When a melanoma spreads, it goes to the lymph nodes first. The lymph nodes are part of the lymphatic system, a series of vessels throughout the body that are responsible for cleaning the body's tissue. Different lymph nodes serve different parts of the body. It may be possible to find the melanoma in the lymph node before it goes any further. A procedure called a sentinel lymph

node biopsy is a way of identifying and testing the first lymph node into which the melanoma drains. The decision to perform a sentinel lymph node biopsy is based on how deep the melanoma is in the skin, and how likely it is to have spread.

An open lymph node biopsy may also be done. This is the surgical removal of the lymph nodes which are examined under a microscope.

### **Additional Tests**

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A complete physical and ophthalmological (eye) examination should be done. Diagnostic imaging techniques such as x-ray, computed tomography (CAT scan), magnetic resonance imaging (MRI), positron emission tomography (PET scan) and radio-isotopic bone or organ scan may be included.

Once the melanoma has spread (metastasized) and the nodes have been evaluated, it requires a different treatment plan which may include surgical removal, chemotherapy, immunotherapy, or radiation therapy.

### **What can be done for protection?**

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Since excessive exposure to ultraviolet radiation is one contributing factor to melanoma, it makes common sense to use sun protection. Avoid sun exposure from 10:00 a.m. through 4:00 p.m. when the sun is the strongest. Wear a broad-spectrum sunscreen, one that blocks both types of ultraviolet light (UVA and UVB), and reapply every two hours. Wear a wide-brimmed hat, sunglasses, and tightly-woven clothing that will block ultraviolet light. White cotton shirts only block 50% of the sun's rays. Avoid indoor tanning.

Early detection remains the best treatment. Therefore, looking for irregular lesions that are growing and changing, and

skin self-examinations should be performed monthly. Remember to use the ABCD rules, and to see a dermatologist periodically for a complete skin examination. If a mole is changing, see a dermatologist immediately.

To learn more about malignant melanoma, call toll free (888) 462-DERM (3376) to [find a dermatologist](#) in your area.

**AAD Web site:** [www.aad.org](http://www.aad.org)

**1-888-462-DERM**

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