

MELANOMA (A FORM OF SKIN CANCER)

What is melanoma?

Melanoma is a disease of the skin in which cancer (malignant) cells are found in the cells that color the skin (melanocytes). Melanoma usually occurs in adults, but it may occasionally be found in children and adolescents. The skin protects the body against heat, light, infection, and injury. It is made up of two main layers: the epidermis (the top layer) and dermis (the inner layer). Melanocytes are found in the epidermis and they contain melanin, which gives the skin its color. Melanoma is sometimes called cutaneous melanoma or malignant melanoma.

Melanoma is a more serious type of cancer than the more common skin cancers, basal cell cancer or squamous cell cancer, which begin in the basal or squamous cells of the epidermis. (Refer to the PDQ summary on Skin Cancer Treatment for more information.)

Melanoma can spread (metastasize) quickly to other parts of the body through the lymph system or through the blood. (Lymph nodes are small, bean-shaped structures that are found throughout the body; they produce and store infection-fighting cells.) A doctor should be seen if a person has any of the following warning signs of melanoma: change in the size, shape, or color of a mole; oozing or bleeding from a mole; or a mole that feels itchy, hard, lumpy, swollen, or tender to the touch. Melanoma can also appear on the body as a new mole. Men most often get melanoma on the trunk (the area of the body between the shoulders and hips) or on the head or neck; women most often get melanoma on the arms and legs.

If there are signs of skin cancer, the doctor will examine the skin carefully. If a mole or pigmented area doesn't look normal, the doctor will cut it out (called local excision) and look at it under the microscope to see if it contains cancer. This is usually done in a doctor's office. It is important that this biopsy is done correctly.

SCREENING FOR SKIN CANCER

Routine examination of the skin increases the chance of finding skin cancer early. Most melanomas that appear in the skin can be seen by the naked eye. Usually, there is a lengthy period when the tumor expands beneath the top layer of skin but does not invade the deeper skin layers. This period allows for early detection and full recovery if the tumor is discovered before spreading deeper.

STAGES OF MELANOMA (SKIN CANCER)

Once melanoma is found, more tests will be done to find out if cancer cells have spread to other parts of the body. This is called staging. A doctor needs to know the stage of the disease to plan treatment. The following stages are used for melanoma:

Stage 0

In stage 0 melanoma, the abnormal cells are found only in the outer layer of skin cells and do not invade deeper tissues.

Stage I

Cancer is found in the outer layer of the skin (epidermis) and/or the upper part of the inner layer of skin (dermis), but it has not spread to nearby lymph nodes. The tumor is less than 1.5 millimeters (1/16 of an inch) thick.

Stage II

The tumor is 1.5 millimeters to 4 millimeters (less than 1/6 of an inch) thick. It has spread to the lower part of the inner layer of skin (dermis), but not into the tissue below the skin or into nearby lymph nodes.

Stage III

The tumor may be larger or smaller than 4 millimeters thick, may have spread to lower layers of the skin, may have additional tumor growths within 1 inch of the original tumor (satellite tumors), may have spread to surrounding lymph nodes, and may be actively spreading to nearby areas of the body.

Stage IV

The tumor has spread to other organs or to lymph nodes far away from the original tumor.

Recurrent

Recurrent disease means that the cancer has come back (recurred) after it has been treated. It may come back in the original site or in another part of the body.

TREATMENT FOR MELANOMA

There are treatments for all patients with melanoma. Four kinds of treatments are used:

- surgery (taking out the cancer in an operation)
- chemotherapy (using drugs to kill cancer cells)
- radiation therapy (using high-dose x-rays or other high-energy rays to kill cancer cells)
- biological therapy (using the body's immune system to fight cancer)

Surgery is the primary treatment of all stages of melanoma. The doctor may take out the melanoma using one of the following operations:

Conservative re-excision is an operation to take out any cancer that remains following biopsy, along with a small amount of skin around it (usually less than one-half of an inch). Wide surgical excision takes out the cancer and some of the skin around the tumor. Skin may have to be taken from another area of the body and put on the place where the cancer has been taken out. This is called grafting

Chemotherapy uses drugs to kill cancer cells. Chemotherapy may be taken by pill, or it may be put into the body by a needle in the vein or muscle. Chemotherapy is called a systemic treatment because the drugs enter the bloodstream, travel through the body, and can kill cancer cells throughout the body. If the melanoma occurs on an arm or leg, chemotherapy may be given with a technique called isolated arterial perfusion. In this method, chemotherapy drugs are put directly into the bloodstream of the arm or leg where the melanoma is found. This allows most of the drug to reach the tumor directly. However,

chemotherapy alone has not been shown to be effective in treating melanoma. Clinical trials are being done to find chemotherapy drugs that are effective.

If a doctor removes all the cancer that can be seen at the time of the operation, a patient may be given chemotherapy after surgery to kill any cancer cells that are left. Chemotherapy given after an operation to a person who has no cancer cells that can be found is called adjuvant chemotherapy. Adjuvant therapy has been shown to be effective for patients whose disease has spread to their lymph nodes. Clinical trials are being done to find adjuvant chemotherapy drugs that are effective.

Radiation therapy uses high-energy x-rays to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external radiation therapy) or from putting materials that produce radiation (radioisotopes) through thin plastic tubes in the area where the cancer cells are found (internal radiation therapy).

SKIN CANCER PREVENTION

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Non melanoma Skin Cancer (Basal Cell Carcinoma and Squamous Cell Carcinoma)

Studies have suggested that reducing exposure to ultraviolet (UV) radiation decreases the incidence of nonmelanoma skin cancer. Ultraviolet radiation is a stream of invisible high-energy rays coming from the sun. Artificial sources such as tanning booths and sunlamps also produce ultraviolet radiation. Sun exposure can be reduced by changing patterns of outdoor activities to reduce time of exposure to high-intensity UV radiation (the sun is strongest from 11 am to 3 pm), wearing protective clothing (such as long sleeves and hats) when exposed to sunlight, and by using adequate amounts of sufficiently protective sunscreen.

Whether sunscreens are effective in protecting against nonmelanoma skin cancer has not been determined. People whose skin tans poorly or burns easily after sun exposure are particularly susceptible to nonmelanoma skin cancer. These people in particular may benefit by following prevention methods for nonmelanoma skin cancer.

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Melanoma

Studies have suggested that avoiding sunburns, especially in childhood and adolescence, may reduce the incidence of melanoma skin cancer. Sunburn can be avoided by changing patterns of outdoor activities to reduce time of exposure to high-intensity UV radiation (the sun is strongest from 11 am to 3 pm), wearing protective clothing (such as long sleeves and hats) when exposed to sunlight, and using sunscreen. Sunscreen is not a substitute for avoidance of sun exposure. People whose skin tans poorly or who have a large number of abnormal moles

may have an increased risk of developing melanoma skin cancer. These people in particular may benefit by following prevention methods for melanoma