

What is melanoma?

Melanoma is the most serious form of skin cancer. It begins when normal color-producing cells called melanocytes change and grow uncontrollably, eventually forming a mass called a tumor. Melanoma sometimes develops from a pre-existing mole. Although melanoma can occur anywhere on the body, it is most often found on men's backs and women's legs.

What is the function of the skin?

The skin protects the body from infection and injury, helps regulate body temperature, stores water and fat, and produces vitamin D. Skin is made up of the epidermis (outer layer) and the dermis (inner layer). The deeper layer of the epidermis contains melanocytes.

What does stage mean?

The stage is a way of describing where the cancer is located, if or where it has spread, and whether it is affecting other parts of the body. There are five stages for melanoma: stage 0 (zero) and stages I through IV (one through four).

How is melanoma treated?

The treatment of melanoma depends on its thickness, whether the cancer has spread, the stage, the presence of specific genetic changes in melanoma cells, the rate of melanoma growth, and the person's overall health. If the melanoma has not spread to other parts of the body, surgery is the first treatment. Sometimes it is the only treatment needed because most people with early-stage melanoma are cured with the first surgery. Other times, a person needs additional treatment after surgery, called adjuvant therapy, which may include immunotherapy, radiation therapy, or clinical trials. Immunotherapy is a treatment that boosts the body's immune system to fight the cancer.

If melanoma has spread to other parts of the body or it cannot be removed with surgery, treatment options include immunotherapy, targeted therapy, radiation therapy, surgery, and chemotherapy.

The side effects of melanoma treatment can often be prevented or managed with the help of your health care team. This is called supportive care and is an important part of the overall treatment plan.

What is radiation therapy?

Radiation therapy is the use of high energy x-rays or other particles to kill cancer cells. The goal of radiation therapy is to destroy the cancer cells without harming nearby healthy tissue. It may be used along with other cancer treatments or as the primary treatment. Sometimes radiation therapy is used to relieve symptoms, called palliative radiation therapy. More than half of all people with cancer receive some type of radiation therapy.

What are the different types of radiation therapy?

The most common type is called external-beam radiation therapy, which is radiation given from a machine located outside the body. Types of external-beam radiation therapy include proton therapy, three-dimensional conformal radiation therapy (3D-CRT), intensity-modulated radiation therapy (IMRT), and stereotactic radiation therapy. When radiation treatment is given using implants, it is called internal radiation therapy or brachytherapy. The type you receive depends on many factors.

What to expect during radiation therapy

Before treatment begins, patients will meet with the radiation oncologist to review medical history and discuss the potential risks and benefits. If the patient chooses to receive radiation therapy, he or she may undergo tests to plan the treatment and evaluate the results.

The first radiation therapy session is called a simulation and does not involve an actual treatment. During this visit, the medical team will position the patient and adjust the radiation beam to target the tumor, the location of which may be marked on the skin with a very small, dot-like temporary or permanent tattoo. In addition, special blocks, shields, or immobilizers may be used to position the patient correctly. Once treatment begins, often a few days after the simulation, the radiation oncologist will evaluate the patient's progress weekly and may adjust the treatment plan as needed.

Side effects of radiation therapy

The side effects of radiation therapy vary and depend on the type and location of cancer, treatment dose, and the patient's overall health. Preventing and controlling side effects is a major focus of the health care team. Side effects may include fatigue, mild skin reactions, and upset stomach. These often begin during the second or third week of treatment and may last for several weeks after the final radiation treatment. Most side effects go away after treatment, although some long-term side effects may occur months or years after treatment.

What is immunotherapy?

Immunotherapy, also called biologic therapy, is a type of cancer treatment designed to boost the body's natural defenses to fight the cancer. It uses materials either made by the body or in a laboratory to improve, target, or restore immune system function. It is not entirely clear how immunotherapy treats cancer. However, it may work in the following ways:

- Stopping or slowing the growth of cancer cells
- Stopping cancer from spreading to other parts of the body
- Helping the immune system work better at destroying cancer cells.

Glossary of Terms:

Biopsy: Removal of a tissue sample that is then examined under a microscope to check for cancer cells.

Metastasis: The spread of cancer from where it began to another part of the body.

Targeted therapy: Treatment that targets specific genes or proteins that contribute to cancer growth and survival.

Computed Tomography (CT) scan: An imaging test that creates three-dimensional picture of the inside of the body with an x-ray machine; may be used for treatment planning.

Stereotactic radiation therapy: Used to deliver a large, very precise radiation dose to a small tumor area, usually in five or fewer sessions.

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