

## GENERAL RISK FACTORS FOR SKIN CANCER

There are many risk factors for developing skin cancer ranging from sun exposure to moles to family history:

- **Exposure to ultraviolet rays and sunburn:** People who have experienced prolonged exposure to sunlight and tanning booths are at an increased risk to develop skin cancer. The amount of exposure depends on the intensity of the light, length of time the skin was exposed, and whether the skin was protected with either clothing or sunscreen. In addition, severe sunburn in childhood or teenage years can increase the risk of skin cancer.
- **Skin coloring/pigmentation:** People with fair skin are 20 times more likely to develop skin cancer than people with darker skin. Caucasian people with red or blonde hair and fair skin that freckles or burns easily are at the highest risk. People with darker pigmentation can also develop skin cancer, more likely on the palms of the hands, soles of the feet, under the nails or inside the mouth.
- **Moles:** Individuals with moles may be at increased risk of developing melanoma, especially if the moles are unusual, large or multiple.
- **Family history:** Risk of developing melanoma is higher if one or more members of a person's immediate family have been diagnosed.
- **Immune suppression:** People who have illnesses affecting their immune system (such as HIV) or who are taking medicines to suppress their immune system (such as after an organ transplant) are at an increased risk of skin cancer.
- **Occupational exposure:** Individuals exposed to coal tar, pitch, creosote, arsenic compounds or radium are at increased risk to develop skin cancer.

## FACTS ABOUT SKIN CANCER

- More than 1 million cases of basal and squamous cell skin cancers will be diagnosed in the United States this year. These cancers can usually be cured.
- Nearly 60,000 cases of melanoma are diagnosed annually. Nearly 5,000 men and 2,900 women will die from the disease this year.
- Skin cancer usually occurs in adults but can sometimes affect children and teenagers.

## HELPFUL WEB SITES ON SKIN CANCER

American Cancer Society  
[www.cancer.org](http://www.cancer.org)

The Skin Cancer Foundation  
[www.skincancer.org](http://www.skincancer.org)

Melanoma Research Foundation  
[www.melanoma.org](http://www.melanoma.org)

## LEARNING ABOUT CLINICAL TRIALS

The radiation oncology team is constantly exploring new ways to treat cancer patients through studies called clinical trials. Today's standard radiation therapy treatments are a result of clinical trials completed many years ago. For more information, please contact the following organizations:

American Society for Therapeutic Radiology and Oncology  
[www.astro.org/links/clinical\\_trial\\_information/index.htm](http://www.astro.org/links/clinical_trial_information/index.htm)

National Cancer Institute  
[www.cancer.gov/clinicaltrials](http://www.cancer.gov/clinicaltrials)

Radiation Therapy Oncology Group  
[www.rtog.org](http://www.rtog.org)



## ABOUT THE RADIATION ONCOLOGY TEAM

Radiation oncologists are the doctors who oversee the care of each patient undergoing radiation treatment. Other members of the radiation oncology team include radiation therapists, radiation oncology nurses, medical physicists, dosimetrists, social workers and nutritionists. To locate a radiation oncologist in your area, visit [www.astro.org/patient](http://www.astro.org/patient).



## ABOUT ASTRO

The American Society for Therapeutic Radiology and Oncology is the largest radiation oncology society in the world. The Society's mission is to advance the practice of radiation oncology by promoting excellence in patient care, promoting research and disseminating research results.



## RADIATION THERAPY for SKIN CANCER

Understanding Your Treatment Options

# ASTRO

THE AMERICAN SOCIETY FOR THERAPEUTIC RADIOLOGY AND ONCOLOGY  
*Targeting Cancer Care*

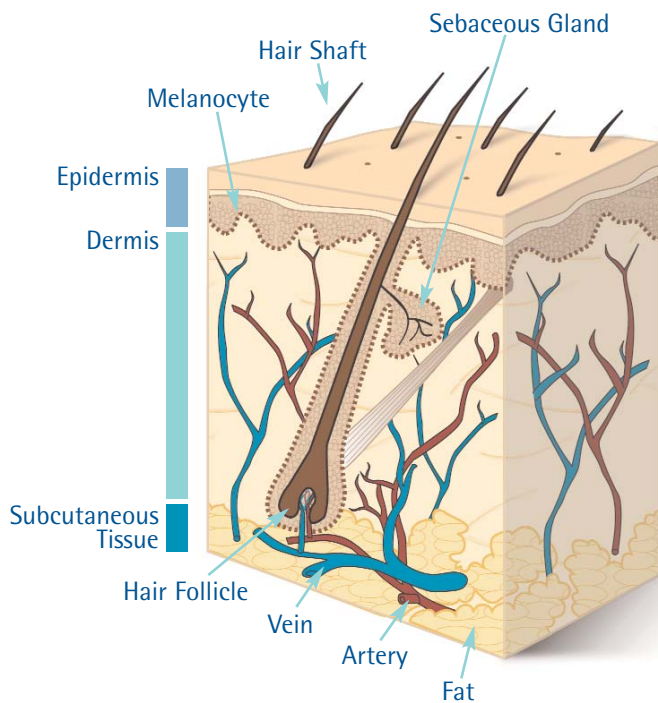
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## ABOUT SKIN CANCER

The skin is the body's largest organ. Its job is to protect internal organs against damage, heat and infection. The skin is also the most exposed organ to sunlight and other forms of harmful ultraviolet rays. There are three major types of skin cancer.

- **Basal cell carcinoma:** The most common form of skin cancer. These cancers begin in the outer layer of skin (epidermis).
- **Squamous cell carcinoma:** The second most common type of skin cancer. These cancers also begin in the epidermis.
- **Melanoma:** The most serious skin cancer, it begins in skin cells called melanocytes that produce skin color (melanin).

If caught and treated early, most skin cancers can be cured. Be sure to talk to your doctor about anything unusual on your skin.



## SIGNS OF SKIN CANCER

Skin cancer can be detected early and it is important to check your own skin on a monthly basis. You should take note of new marks or moles on your skin and whether or not they have changed in size or appearance.

The American Cancer Society's "ABCD rule" can help distinguish a normal mole from melanoma:

- **Asymmetry:** The two halves of a mole do not match.
- **Border irregularity:** The edges of the mole are ragged and uneven.
- **Color:** Differing shades of tan, brown or black and sometimes patches of red, blue or white.
- **Diameter:** The mole is wider than a quarter inch in size.

The American Cancer Society recommends a skin examination by a doctor every three years for people between 20 and 40 years of age and every year for anyone over the age of 40.

## DIAGNOSING SKIN CANCER

If initial test results show abnormal skin cells, your doctor may refer you to a skin specialist called a dermatologist. If the dermatologist thinks that skin cancer may be present, a biopsy, or sample of skin from the suspicious area, will be checked for cancer. There are three types of biopsies to test for skin cancer.

- **Shave biopsy:** The doctor "shaves" or scrapes off the top layers of the skin with a surgical blade.
- **Punch biopsy:** This type removes a deeper skin sample with a tool that resembles a tiny cookie cutter.
- **Incisional and excisional biopsies:** For an incisional biopsy, a surgeon cuts through the full thickness of skin and removes a wedge for further examination. An excisional biopsy is when the entire tumor is removed.

Other tests such as a chest X-ray, CT scan or MRI may be used to see if the cancer has spread to other parts of the body.

## TREATING SKIN CANCER

The treatment you receive depends on several factors including your overall health, stage of the disease and whether the cancer has spread to other parts of your body. Treatments are often combined and can include:

- Radiation therapy where the cancer cells are killed by X-rays.
- Surgery where the cancer cells are cut out and removed.
- Electrodessication where the cancer is dried with an electric current and removed.
- Cryosurgery where the cancer is frozen and removed.
- Laser surgery where the cancer cells are killed by laser beams.
- Chemotherapy where the cancer cells are attacked by a drug that is either taken internally or applied on the skin.
- Photodynamic therapy where the cancer is covered with a drug that becomes active when exposed to light.
- Biologic therapy where doctors help your immune system better fight the cancer.

## UNDERSTANDING RADIATION THERAPY

Radiation therapy, also called radiotherapy, is the careful use of radiation to treat many different kinds of cancer.

- Cancer doctors, called radiation oncologists, use radiation therapy to try to cure cancer, to control cancer growth or to relieve symptoms such as pain.
- Radiation therapy works within cancer cells by damaging their ability to multiply. When these cells die, the body naturally eliminates them.
- Healthy cells that grow and divide quickly are also harmed by radiation, but they are able to repair themselves in a way cancer cells cannot.

## EXTERNAL BEAM RADIATION THERAPY

External beam radiation therapy may be used to treat skin cancer and to relieve pain from cancer that has spread to the brain or bone.

- Treatments are usually scheduled every day, Monday through Friday, for several weeks to accurately deliver radiation to the cancer.
- Treatments are painless and take less than half an hour each, start to finish.
- Radiation therapy is often given in addition to surgery, chemotherapy or biologic therapy.
- Skin cancer is often treated with superficial forms of radiation that penetrate only a short distance below the surface.
- Doctors will target the radiation beams at your tumor to give more radiation to the skin cancer while keeping it away from underlying organs.

## POTENTIAL SIDE EFFECTS

You may have little or no side effects from radiation therapy and be able to keep up your normal activities.

- Side effects are usually limited to the part of your body that receives radiation.
- Skin changes such as redness, dryness or itching are common side effects.
- You will also likely lose your hair in the area treated.
- Side effects should go away when the treatment ends.

Talk to your doctor or nurse about any discomfort you feel. He or she may be able to provide drugs or other treatments to help.