

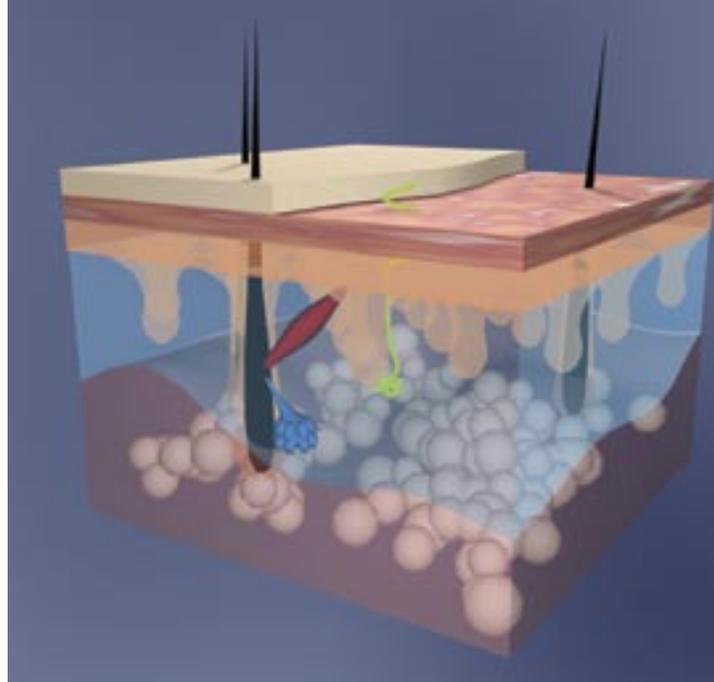
# Skin Cancer Risks in Transplant Recipients: **Know the Facts**



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## What is skin cancer?

The skin is the body's largest organ. It protects against heat, sunlight, injury and infection, controls body temperature and stores water, fat, and vitamin D. The skin has several layers. The main layers are the epidermis (outer layer) and the dermis (inner layer). The epidermis contains three kinds of cells – flat, scaly cells on the surface called squamous cells, round cells called basal cells, and cells called melanocytes which give your skin color. Skin cancer can occur anywhere on the body, but is most common in skin that has been in the sunlight such as the face, neck, hands and arms. There are several types of cancer that affect the skin. The most common types are the basal cell carcinoma and squamous cell carcinomas.



## Why should I be concerned?

Skin cancer is the most common cancer in organ transplant recipients. Solid organ transplant recipients are up to 65 times more likely to develop skin cancer than the general public. It is estimated that up to 70% of fair-skinned transplant recipients will develop skin cancer within 20 years of their transplant but can usually be treated effectively.

The risk is increased because immunosuppressive medications necessary for survival for your organ suppress the immune system, thus preventing your body from rejecting your transplanted organ. By suppressing the immune system these medications all increase the risk for skin cancer.

The main cause of skin cancer is damaged skin from exposure to ultraviolet radiation from the sun or from artificial tanning. This ultraviolet radiation can penetrate skin and damage the skin cells over time.

For high risk transplant patients skin cancer can become a severe problem. Repeat surgeries for skin cancer can significantly decrease the quality of life. Patients may develop new skin cancers regularly and the frequent surgeries can be burdensome. Also, removal of skin cancers may cause scarring, sometimes affecting appearance. When skin cancer severely affects an organ transplant patient, immunosuppressive medication may be reduced or changed and preventive medications may be administered.



## What are the risk factors for skin cancer?

All transplant patients are at increased risk to develop skin cancer. However transplant patients with the following characteristics are at greater risk for skin cancer. These characteristics are:

- Older individuals
- Men
- Fair and easily burned skin
- Freckled skin
- Blue, green or hazel eyes
- Red and blonde hair
- People who have outdoor occupations or extensive exposure to the sun
- Family history of skin cancer
- Personal history of skin cancer

## How quickly does skin cancer develop after organ transplant?

The majority of fair-skinned organ transplant patients will eventually develop skin cancer. After a transplant, there is generally a lag time of 3-7 years before skin cancers begin to develop. This period of time may vary depending upon individual risk factors. The longer a person takes immunosuppressant medications, the greater the risk of skin cancer. In temperate climates 40% of fair-skinned patients develop skin cancer within 20 years after transplantation. In warmer climates, up to 70% of fair-skinned patients develop skin cancer within 20 years after transplant.



## Can I lower my risk of developing skin cancer?

You can't change your skin, but you can lower your risk of skin cancer by following the sun protection precautions outlined below. Also, all skin cancer passes through a treatable phase before getting worse. Having your skin cancer treated early is essential to maintaining your health.

Sun protection is the best strategy for preventing skin cancer. Unfortunately only 54% of transplant patients remember receiving skin cancer education and only 40% regularly use sunscreen.

To maintain healthy skin and prevent skin cancer the following measures are recommended:

- Apply a broad spectrum sunscreen with a sun protection factor of at least 30 or higher.
- Make sunscreen a part of your normal morning routine.
- Clothing provides excellent protection from sun damage. Wear long sleeved shirt and long pants when possible.
- Regularly wear a wide brimmed hat and sunglasses with UV protection.
- Limit outdoor activity between 10 AM and 4 PM.

Sunscreen in cosmetics is a good way to assure regular use. Apply the sunscreen to all exposed areas, including your face, ears, dry part of lip, neck and the back of your hands. Men with thin hair should apply it to their scalps.

On the first day of each month you should do a self examine of your skin with the help of mirrors or a partner. Look for any new or changing growths including pink patches or spots, scaly growths, bleeding areas or changing moles. Report them to your dermatologist, physician or transplant coordinator/nurse. Prompt attention can literally save your life.

## Sunscreen

Using sun protection will help prevent skin damage, wrinkles and reduce the risk of cancer.

### Tips for Sun Protection:

1. Use a broad-spectrum sunscreen with an SPF of at least 30 or higher on all exposed skin, including the lips, even on cloudy days.
2. If exposed to water, either through swimming or sweating, a water-resistant sunscreen should be used.
3. Reapply sunscreens frequently - every 1-1/2 hours, more often if sunny or heavily perspiring.
4. Wear a broad-brimmed hat and sunglasses.
5. Seek shade wherever possible.
6. Wear protective, tight-woven clothing.
7. Plan outdoor activities early or late in the day to avoid peak sunlight between 10am and 4pm.

Sunscreens work by absorbing, reflecting or scattering the sun's rays on the skin. They are available in many forms including ointments, creams, gels, lotions and sprays. All are categorized by SPF numbers. The higher the SPF, the greater the protection from sunburn, caused mostly by UVB rays. Some sunscreens called "broad-spectrum" reflect both UVA and UVB rays. Sunscreens should be applied about 1/2 hour before going outdoors.

## What does skin cancer look like?

Skin cancer is the most common of all cancers, with more than one million skin cancers diagnosed each year in the United States. Often, a precancerous condition called, "actinic keratosis" precedes the development of skin cancer. Learning the characteristics of actinic keratosis and the three most common forms of skin cancer is essential to stay healthy.



Fig. 1



Fig. 2



Fig. 3



Fig. 4

**Actinic Keratosis** (see figure 1) (ak-tin'-ik ker-e-to'-sis)  
Actinic keratoses are considered "precancerous". They have the potential to turn into squamous cell carcinoma, a common type of cancer. An actinic keratosis appears as a small pink or red spot with rough surface, usually on sun-exposed areas. They are often more easily felt than seen. Early treatment of these pre-cancers can prevent their transformation into more serious squamous cell carcinomas.

**Basal Cell Carcinoma** (see figure 2) (ba'-sel sel kar-se-no'-ma)  
This type of skin tumor usually appears as a small, pink bump or patch on the head or neck, although they may occur on any part of the body. Untreated, the area will begin to ulcerate, bleed or crust repeatedly. Basal cell carcinomas grow slowly and rarely spread to other parts of the body. However, left untreated, a basal cell carcinoma can cause extensive damage to the area involved.

**Squamous Cell Carcinoma** (see figure 3) (skua'-mas sel kar-se-no'-ma)  
Squamous cell carcinomas are the most common skin cancers in organ transplant patients. They can appear similar to basal cell carcinomas, but are usually more scaly and rough, and jut out further from the skin's surface. Squamous cell carcinomas often occur on the head and neck, but have a tendency to grow on the ears, lips and the back of the hands and arms. If treated early, a squamous cell carcinoma is easily curable. However, if the tumor invades deep into the skin, it can spread to the lymph nodes, requiring extensive treatment. If the treatment is not successful, a squamous cell carcinoma can result in death.

**Malignant Melanoma** (see figure 4) (ma-lig'-nent mel-e-no'-ma)  
Malignant melanoma usually appears as an irregular brown, black and/or red spot or changing mole. Each year, 59,000 Americans develop melanomas and 7,900 Americans die from melanoma. If caught early, melanoma is also curable. However, in about 15% of patients, it spreads to other parts of the body and can result in death.



## What are the treatments for skin cancer?

If caught early, skin cancers are almost always curable. Basal cell carcinomas and squamous cell carcinomas can be treated with a variety of methods including scraping and freezing for early skin cancers and surgical removal for more advanced cancers. Melanoma is treated by surgically removing the growth. Mohs micrographic surgery is a special surgical procedure used to ensure the complete removal of a skin cancer, while sparing normal skin.

Although the surgical removal of skin cancers inevitably leaves scars, appearance can usually be restored to a high degree after skin surgery.

## What are the long term complications of skin cancer?

Most skin cancer is treatable without long term complications. However, if prompt treatment is not successful, then the skin cancer may spread to the lymph nodes, requiring surgical removal of the nodes. If that treatment is not successful, then the cancers can spread to other parts of the body, resulting in death. With successful and early treatment, the vast majority of patients have their skin cancers

managed well. However, even with successful treatment, multiple skin cancers can be a real burden for patients. The treatment may require multiple surgical procedures resulting in frequent healing, and may produce scars which can alter appearance. Having skin cancer is no fun; prevention is the best approach.

## Living with skin cancer

Unlike most cancers, which may happen at most once during a lifetime, skin cancers may develop dozens or even hundreds of times in affected patients. Therefore, treatment by a dermatologist should be an ongoing process. Your dermatologist will work with you to try to catch skin cancers early, and use preventative techniques to reverse precancerous changes to prevent skin cancer. You can help by protecting your skin from sun damage and checking it on a monthly basis. If you see a suspicious skin spot, have it checked by your dermatologist or transplant provider.



## Choosing the right sunglasses

Choosing the right sunglasses will prevent long-term exposure to the sun's ultraviolet rays which occur during all seasons of the year. These rays have been linked to cataracts and macular degeneration.

### Sunglasses should:

- provide maximum protection from Ultraviolet (UV) rays
- block at least 98 percent of the sun's UV rays
- carry an American National Standards Institute (ANSI) label listing how much UV light they block.

**Note: Sunglasses claiming maximal UV protection don't necessarily meet ANSI standards.**

### Polarized lenses

- provide extra comfort for your eyes and block glare from such things as pavement, sand, water, snow or the hood of your car.
- most provide protections from UV rays.

### Fit close to your face

- wraparound sunglasses give more complete protection from all angles of light.

## Related Links for More Information

These sites are provided as a network resource. Information from the Internet in regard to your transplant should always be discussed with your transplant team. ITNS is not responsible or liable for any information received from these websites.

### For More Information:

#### International Transplant Skin Cancer Collaborative

[www.itsc.org](http://www.itsc.org)

#### AT-RISC Alliance (After Transplant-Reduce the Incidence of Skin Cancer)

[www.at-risc.org](http://www.at-risc.org)

#### SCOPE (Skin Care in Organ Transplant Patients-Europe)

[www.scopnetwork.org](http://www.scopnetwork.org)

#### The Skin Cancer Foundation

[www.skincancer.org](http://www.skincancer.org)

#### American Academy of Dermatology

[www.aad.org](http://www.aad.org)

#### American Cancer Society

[www.cancer.org](http://www.cancer.org)

#### National Cancer Institute

[www.cancer.gov](http://www.cancer.gov)

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