Skin Cancer Risks in

Transplant Recipients:

Know the Facts



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 then the general public.

It is estimated that up to 70% of fair-

skinnned 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 surgeries can be burdensome.

medications all increase the risk for

skin cancer.

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

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 administrated.

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.

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

• Red and blonde hair

• People who have outdoor occupations

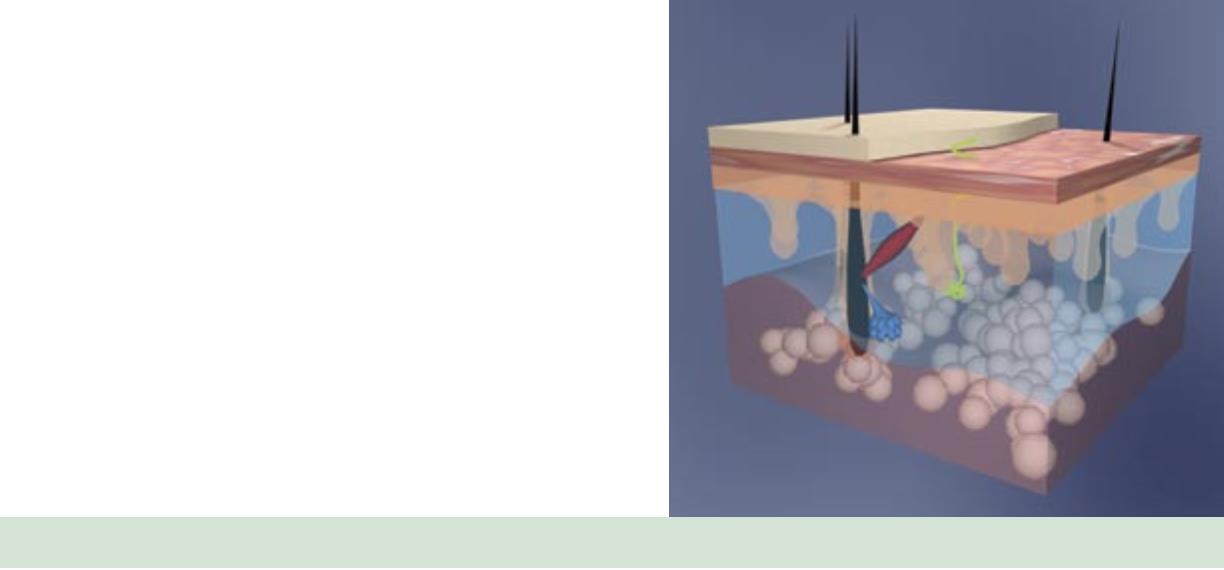
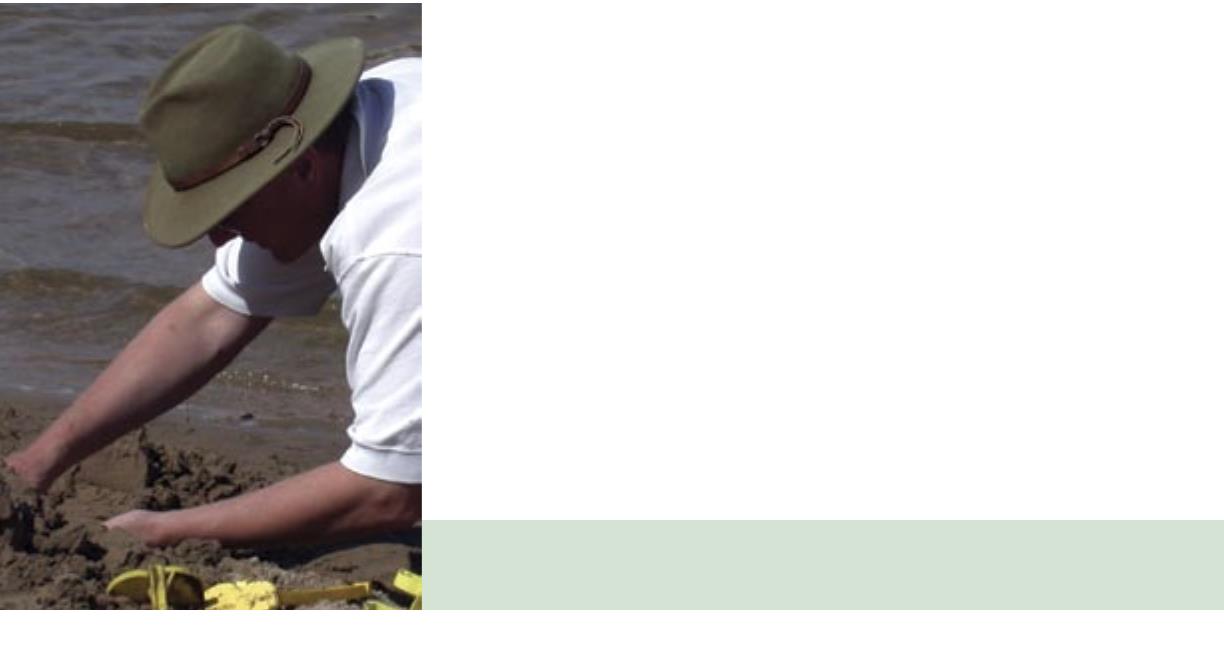
or extensive exposure to the sun

• Family history of skin cancer

• Personal history of skin cancer

• Blue, green or hazel eyes

2



How quickly does skin cancer develop after organ

transplant?

The majority of fair-skinnned 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-

skinnned patients develop skin cancer within 20 years after transplantation. In

warmer climates, up to 70% of fair-skinnned 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.

3



What does skin cancer look like?

Sunscreen

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.

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.

**Fig. 1**

**Fig. 2**

2. If exposed to water,

either through swimming

or sweating, a water-

resistant sunscreen

should be used.

**Fig. 3**

**Fig. 4**

3.

Reapply sunscreens

frequently - every 1-1/2

hours, more often if sunny

or heavily perspiring.

**Actinic Keratosis** (see ﬁgure 1)

(ak-tin’-ik ker-e-to’-sis)

Actinic keratoses are considered

**Squamous Cell Carcinoma** (see ﬁgure 3)

(skua’-mas sel kar-se-no’-ma)

Squamous cell carcinomas are the most

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.

“precancerous”. They have the potential common skin cancers in organ transplant

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.

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

Sunscreens work by absorbing,

reﬂecting or scattering the

**Basal Cell Carcinoma** (see ﬁgure 2)

(ba’-sel sel kar-se-no’-ma)

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.

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.

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

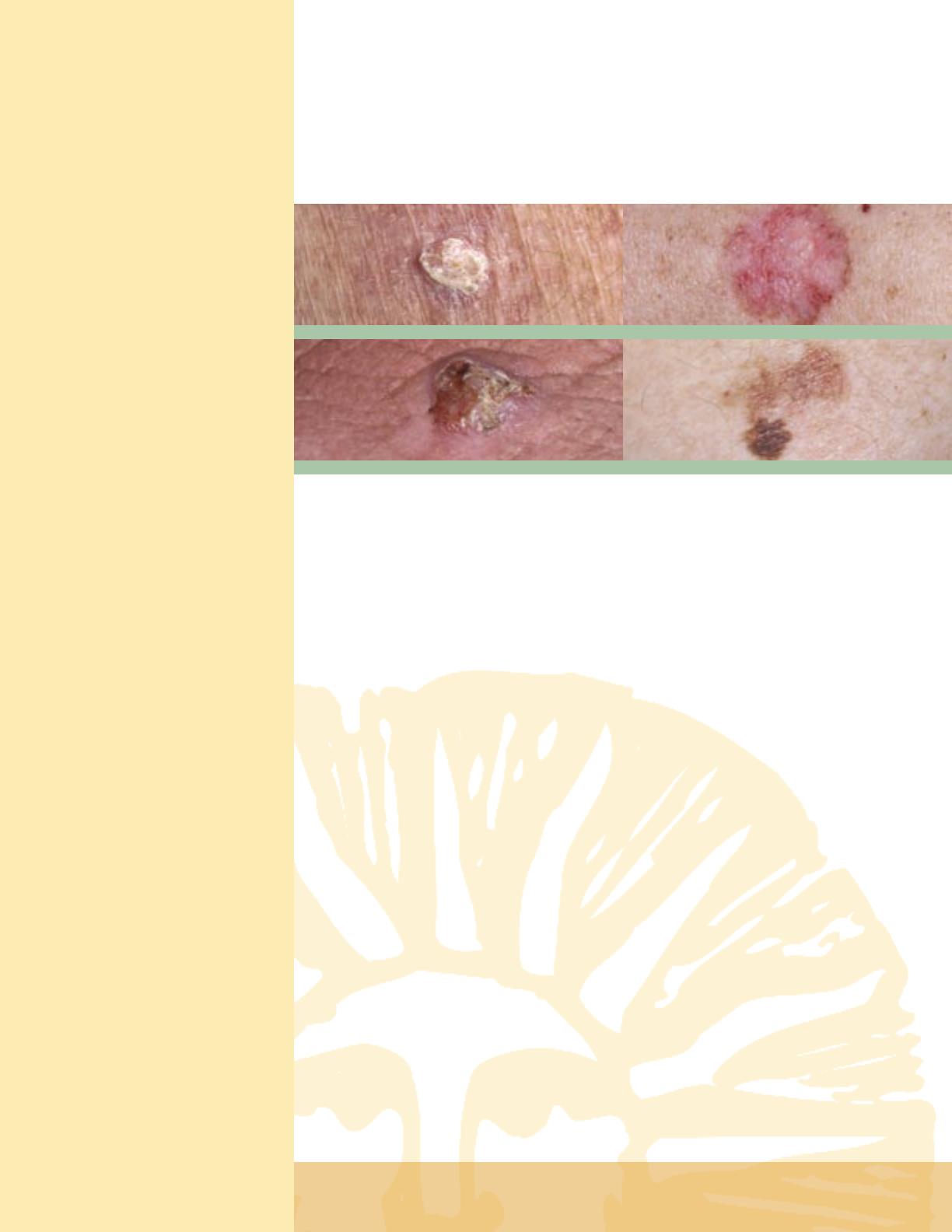
caught early, melanoma is also curable.

However, in about 15% of patients, it

spreads to other parts of the body and

can result in death.

4



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.

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.

**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.

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;

**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.

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

• most provide protections

from UV rays.

**Fit close to your face**

• wraparound sunglasses

give more complete

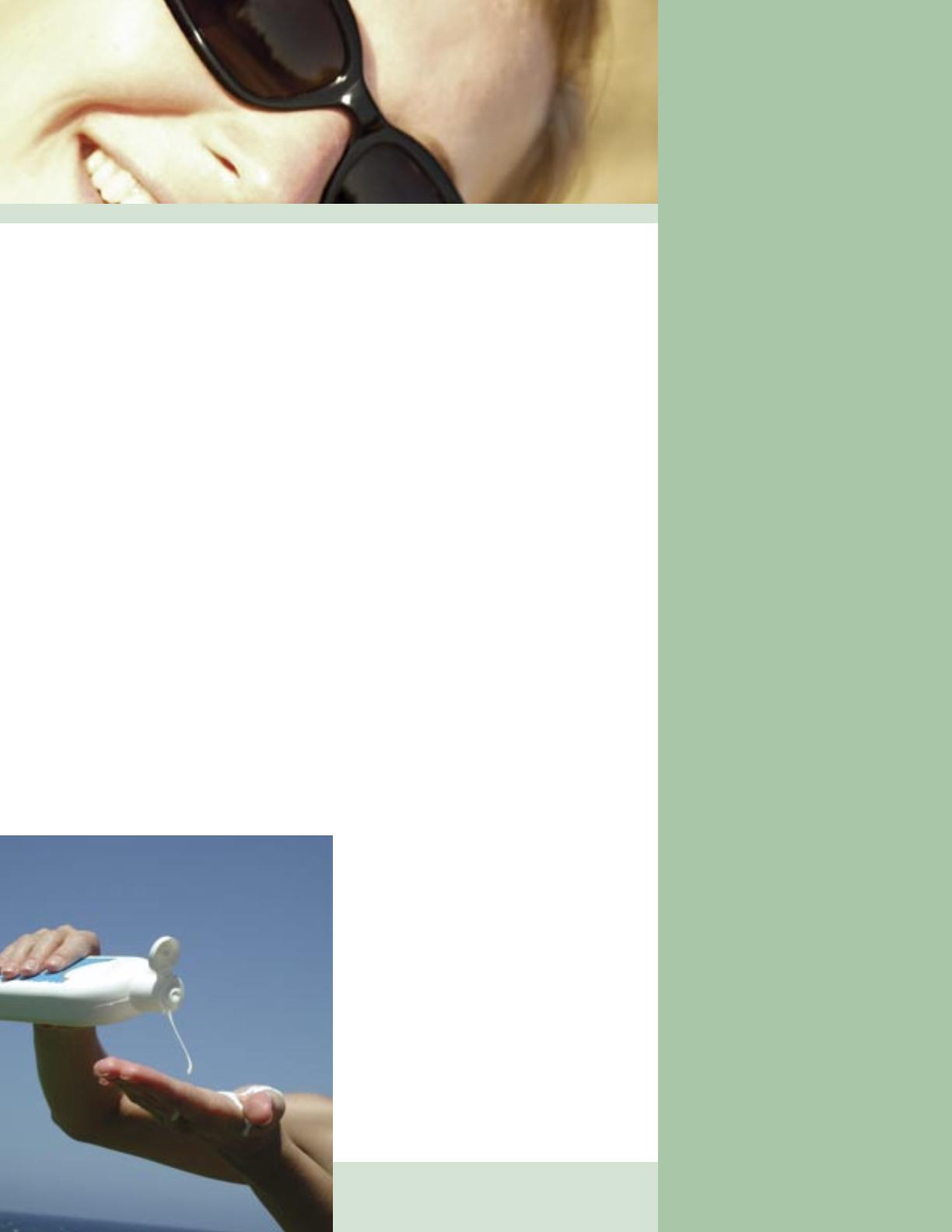
protection from all

angles of light.

suspicious skin spot, have it checked by

your dermatologist or transplant provider.

5



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.itscc.org

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

www.at-risc.org

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

www.scopnetwork.org

**The Skin Cancer Foundation**

www.skincancer.org

**American Academy of Dermatology**

www.aad.org

**American Cancer Society**

www.cancer.org

**National Cancer Institute**

www.cancer.gov

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