

SUNSHINE ON A CLOUDY DAY

Skin Disease in the Setting of Organ Transplantation

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OUTLINE

- Your Medications
- Skin Infections
- Skin Cancer
- Prevention

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IMMUNOSUPPRESSIVE MEDICATIONS WHAT DO THEY DO?

- Prevent graft rejection – give the gift of life
- But, they also
 - Suppress entire immune system
 - Increase susceptibility to **infection**
 - Increase the risk of **cancer, specifically skin cancer**
- Associated skin side effects, some examples include
 - Prednisone: acne
 - Cyclosporin/Tacrolimus: increase oil glands
 - Sirolimus: canker sores, acne, leg swelling
 - Azathioprine: burn more easily

SKIN INFECTIONS

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VIRAL INFECTIONS

Warts-HPV

Shingles-varicella virus



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SKIN CANCERS



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SKIN CANCER IN ORGAN TRANSPLANT RECIPIENTS

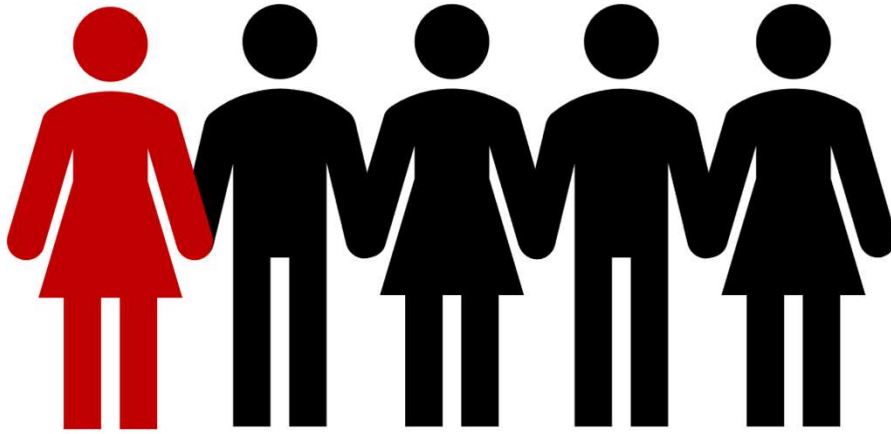
The spectrum of skin cancer in organ transplant patients is quite wide

- For some patients it will be a minor problem requiring simple treatment
- For others it will be a serious problem requiring multiple doctor visits and surgeries
- For a few it will cause death

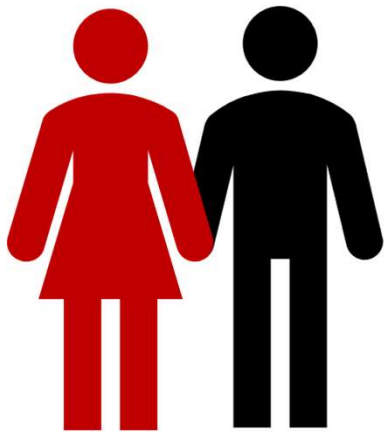
Skin cancer is the most common malignancy after transplant

Compared to the general population,
cancer is two times more likely in transplant recipients
but nonmelanoma skin cancer is **13 times** more likely

**GENERAL U.S. POPULATION:
LIFETIME RISK OF SKIN CANCER**

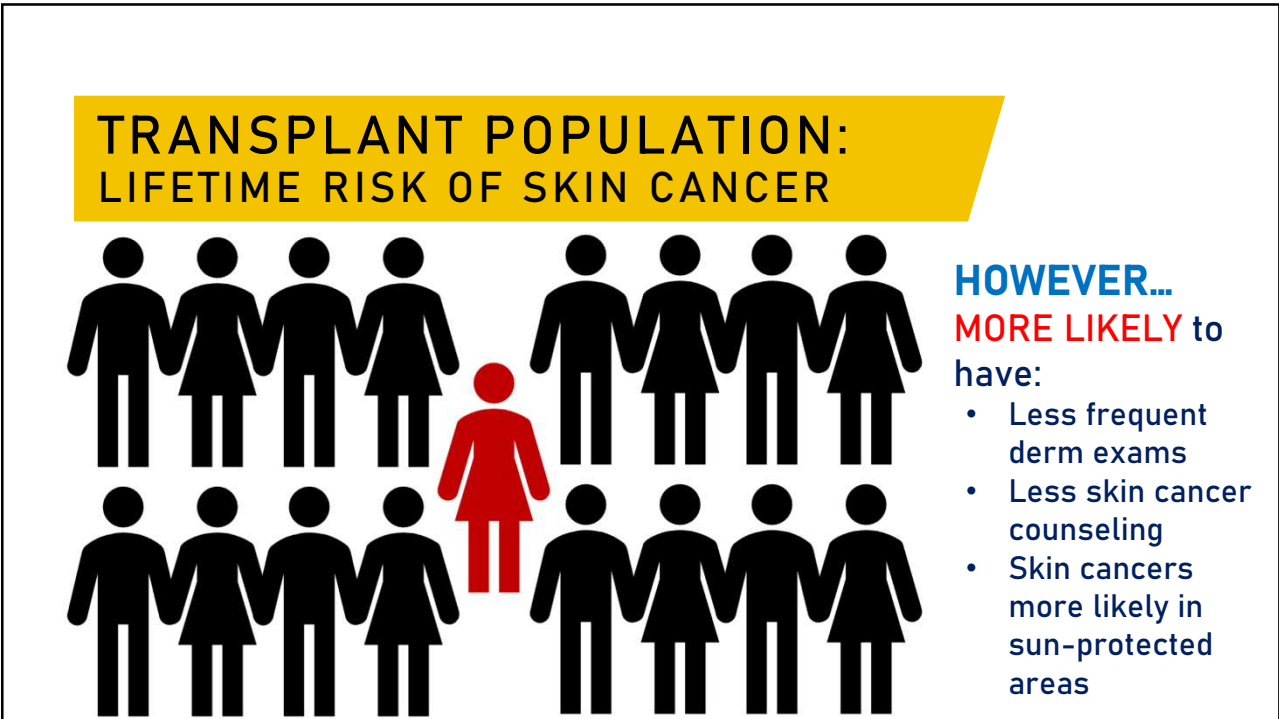
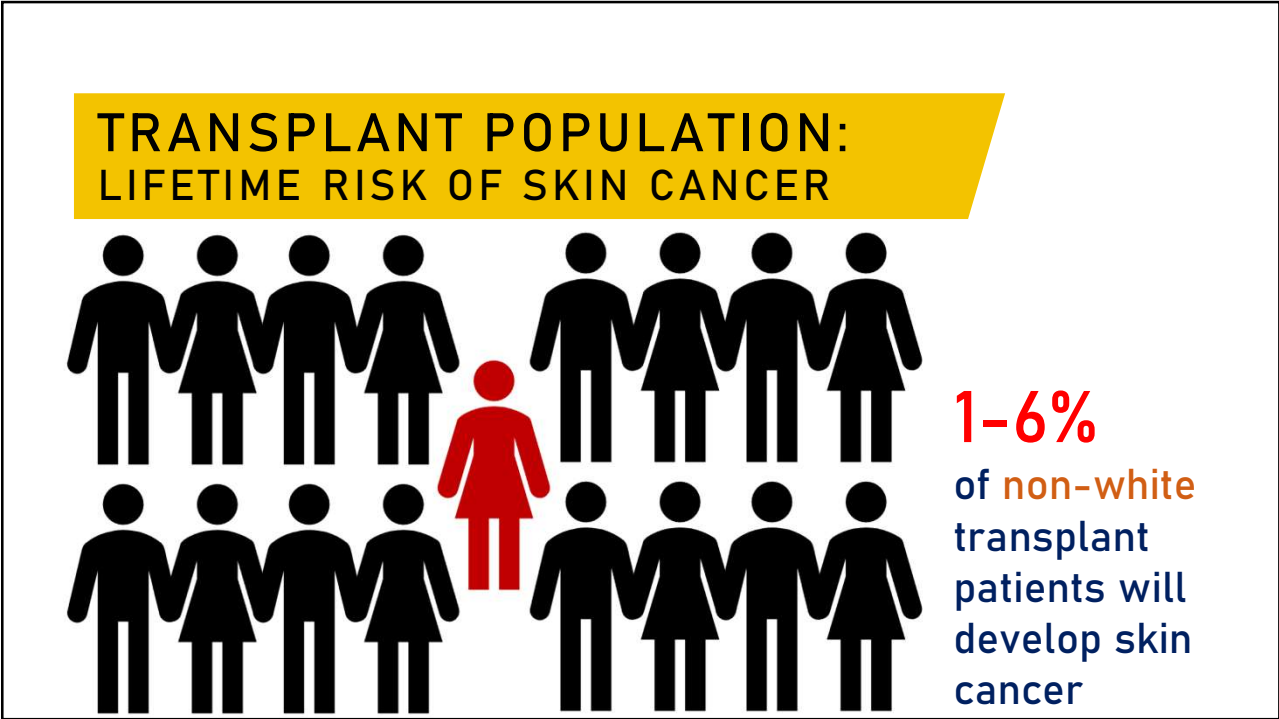


**TRANSPLANT POPULATION:
LIFETIME RISK OF SKIN CANCER**



50%

of **white** transplant patients will develop skin cancer





SKIN CANCER IN ORGAN TRANSPLANT RECIPIENTS

The spectrum of skin cancer in organ transplant patients is quite wide

- For some patients it will be a minor problem requiring simple treatment
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CHARACTERISTICS OF NONMELANOMA SKIN CANCER IN TRANSPLANT RECIPIENTS

- Occur average of 30 years earlier
- More frequently there are multiple skin cancers
- May have more rapid rate of growth
- Increased rate of recurrence
- Increased rate of metastasis

WHO IS AT MOST RISK?

- Some factors are unique to transplant patients
 - Age at transplantation – older means higher risk
 - Time since transplantation – longer means higher risk
 - Level of immunosuppression – higher levels mean higher risk

SQUAMOUS CELL CARCINOMA

HOW TO SPOT:

- Pink, scaly, waxy
- Sun-exposed areas
- May develop from pre-cancer “actinic keratoses”
- Pink, red, or brown spot with rough surface

65x

more common
in transplant
recipients



BASAL CELL CARCINOMA

HOW TO SPOT:

- Shiny pink bump or patch
- Sun-exposed areas
- May bleed or crust repeatedly

10x

more common
in transplant
recipients



MELANOMA

HOW TO SPOT:

- Irregular brown spot
 - ABCDE
- Changing mole

4x

more common
in transplant
recipients



WHAT CAN BE DONE?

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HOW TO PREVENT PROBLEMS WITH SKIN CANCER

- Before the transplant be evaluated for possible skin cancers
- Discuss with your doctor your risk for skin cancer
- Be educated about sun protection and sun avoidance
- Examine your skin at least monthly
- See your dermatologist regularly for a skin exam
- Have any precancers or cancers treated early

SUN PROTECTION

- Find a sunscreen you like
- Apply liberally - it takes 1 to 2 ounces to cover the body adequately (at least 1 teaspoon per body part)
- Apply 30 minutes before going out
- Repeat application after swimming, sweating
- Look for sunscreen in daily moisturizer and make-up if worn
- Make sunscreen a daily habit!
- UVB peaks from 10am-2pm
- Sand reflects 10-15% of UV radiation
- No tanning beds



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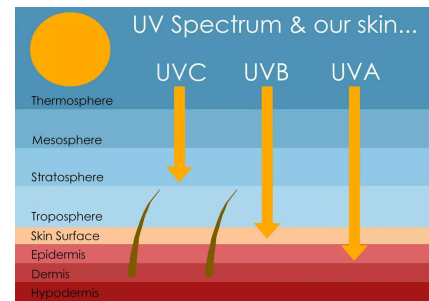
ULTRAVIOLET RADIATION

Ultraviolet A (UVA)

- Longest rays
- Passes through windows in your car and office
- Aging/wrinkle formation
- Cumulative risk skin cancer

Ultraviolet B (UVB)

- Shorter rays
- Sunburns
- UVB is responsible for the formation of most skin cancers



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SUNSCREEN—HOW TO READ A LABEL

Table 1
FDA-Approved Active Sunscreen Product Ingredients and Their Effects on UV Radiation

	Ingredient	UVA	UVB
Inorganic Agents	Titanium dioxide	I, II	X
	Zinc oxide	I, II	X
Organic Agents	p-aminobenzoic acid (PABA)		X
	Padimate-O		X
	Cinoxate		X
	Octinoxate		X
	Homosalate		X
	Octisalate		X
	Trolamine salicylate		X
	Oxybenzone	II	X
	Sulisobenzene	II	X
	Dioxybenzone	II	X
	Meradimate	II	
	Avobenzene	I	
	Octocrylene	II	X
	Ecamsule	I, II	X
Ensulizole		X	

I: protects against 340–400-nm UVA radiation; II: protects against 320–340-nm UVA radiation; X: protects against UVB radiation.
Source: References 1, 6, 11, 13.

Drug Facts

Active ingredients

Active ingredients	Purpose
Homosalate 10.0%	Sunscreen
Octocrylene 10.0%	Sunscreen
Ethylhexyl Methoxycinnamate 7.5%	Sunscreen
Ethylhexyl Salicylate 5.0%	Sunscreen
Titanium Dioxide 2.0%	Sunscreen

Uses • Helps prevent sunburns • Higher SPF gives more sunburn protection

Warnings
For external use only. When using this product keep out of eyes. Rinse with water to remove. Stop use and ask a doctor if rash or irritation develops and lasts. Keep out of reach of children. If swallowed, get medical help or contact a Poison Control Center right away.

Directions • Apply liberally as needed 15 to 20 minutes before sun exposure • Reapply as needed or after swimming, perspiring or towel drying.
• Children under 6 months of age: ask a doctor

Inactive ingredients
Aque (Water), Glycerin, Cetearyl Olivrate, Cetyl Alcohol, Glyceryl Stearate SE, Sorbitan Olivrate, Dimethicone, VP/Hexadecene Copolymer, Caprylic / Capric Triglyceride, Aloe Barbadensis Leaf JuiceTM, Calendula Officinalis Flower ExtractTM, Camellia Sinensis Leaf ExtractTM, Chamomilla Recutita (Matricaria) Flower ExtractTM, Ginkgo Biloba Leaf Extract, Panax Ginseng Root Extract, Lavandula Angustifolia (Lavender) Flower/Leaf/Stem ExtractTM, Sodium Stearoyl Glutamate, Tocopheryl Acetate, Xanthan Gum, Benzyl Alcohol, Ethylhexylglycerin, Phenoxyethanol, Potassium Sorbate, Sodium Benzoate, Fragrance (Parfum)

Drug Facts

Active ingredients

Active ingredients	Purpose
Avobenzene 3%	Sunscreen
Homosalate 10%	
Octinoxate 7.5%	

Uses
• high UVB sunburn/UVB protection
• for skin highly sensitive to sunburn
• retains SPF after 80 minutes of activity in the water

Warnings
For external use only
UV exposure from the sun increases the risk of skin cancer, premature skin aging, and other skin damage. It is important to decrease UV exposure by limiting time in the sun, wearing protective clothing, and using a sunscreen.

When using this product keep out of eyes. Rinse with water to remove.

Stop use and ask a doctor if skin rash occurs

Keep out of reach of children If swallowed, get medical help or contact a Poison Control Center right away

Directions
• apply liberally before sun exposure
• apply and reapply as directed to avoid lowering protection
• reapply after 80 minutes of swimming or sweating and after towel drying. Otherwise, reapply at least every 2 hours.
• children under 6 months: ask a doctor

Inactive ingredients alphabetical listing of ingredients

Questions or comments? call toll free 1-800-XXX-XXXX

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SUNSCREEN LABELS

Sunscreen Labeling According to 2011 Final Rule

If used as directed with other sun protection measures, this product reduces the risk of skin cancer and early skin aging, as well as helps prevent sunburn.

Only products labeled with both "Broad Spectrum" AND SPF15 or higher have been shown to provide all these benefits.



Broad-spectrum = provides protection against both UVA + UVB

The terms "waterproof" "sweatproof" "sunblock" can no longer be used.

Water resistant: must specify if provides protection for 40 or 80 minutes



SUNSCREEN

NOTE:

According to the FDA, only **zinc oxide** & **titanium dioxide** ingredients (found in “physical” or “mineral” sunscreens) achieved **GRASE*** status

*Generally Recognized As Safe And Effective

SUNSCREEN: PIGMENTED FOR BROWN SKIN



SUN-PROTECTIVE CLOTHING

- Once the garment is on – it's working, won't wear off
- Not messy, oily or greasy
- Non-allergenic
- Less expensive – lasts for multiple seasons
- Special clothes with SPF are available-UPF
- Special detergents are available to give SPF to clothes
- Wear a broad-brimmed hat
- Favorite worn-in white t-shirt? Won't protect you!
- Tight weave fabric: if you can see through it, it won't protect



STAYING SAFE IN THE SUN: REVIEW

Sun avoidance is the most effective way to protect your skin from the sun.

Avoid peaks hours 10am-2pm

Sun-protective clothing provides immediate and long-lasting protection.

Sunscreens are an important component of sun protection.

- Spf 30+, broad-spectrum, water-resistant
- The best sunscreen is the one you will use!

SELF SKIN EXAMS USING A HAND MIRROR



Don't forget about:

- ◆ Underarms
- ◆ Palms & Soles
- ◆ Finger & Toenails
- ◆ Back
- ◆ Buttocks
- ◆ Genital area

Take Home Message

You have the ability to decrease
your risk for skin cancer:

SUN PROTECTION

You have the ability to detect
skin cancers before they are
dangerous:

SELF SKIN EXAMS