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Key Inforbits

- Prevalence of Skin Cancer
- Types of Skin Cancer
- Risk Factors for Developing Skin Cancer
- Skin Cancer Prevention
- Medications and Photosensitivity



Available from: <http://shellpoint.org/blog/2014/05/05/national-skin-cancer-awareness-month/>

PREVALENCE OF SKIN CANCER

Skin cancers are the most common malignancy in North America.¹ One in five Americans are likely to develop skin cancer in their lifetime.² There are an estimated 3.5 million cases of basal and squamous cell skin cancer diagnosed in the United States annually. It was estimated that melanoma accounted for over 73,000 cases of skin cancer in 2015.³

TYPES OF SKIN CANCER^{1,2}

- Basal and squamous cell carcinomas
 - Most common
 - Strongly linked to sun exposure – occur on exposed skin
- Melanoma
 - Most likely to occur on trunk or legs, but may occur anywhere
 - More likely to metastasize if not caught early
 - Linked to exposure to severe burns rather than to cumulative sun exposure
 - Risk is doubled in patients who had ≥ 5 sunburns as adolescents

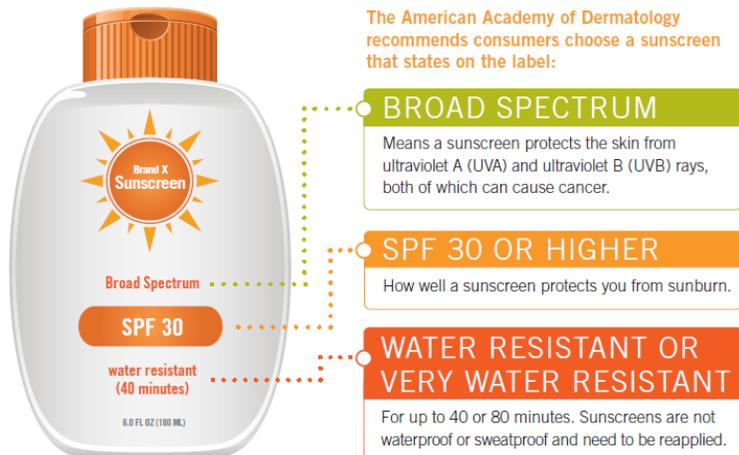
RISK FACTORS FOR DEVELOPING SKIN CANCER^{1,2,3}

Personal or family history of skin cancer (especially melanomas)	High altitudes
Numerous moles, irregularly shaped moles, or moles of large size	Spending lots of time outdoors
Freckles, burning prior to tanning	Autoimmune disorders
Fair skin, blue or green eyes, or blond/red/light brown hair	Organ transplantation
Medications that increase sun sensitivity	Immunosuppressive medications

SKIN CANCER PREVENTION

Sunscreen Recommendations²

The American Academy of Dermatology (AAD), recommends that everyone wear sunscreen to aid in the prevention of skin cancer. Sunscreen should be used every day you will be outside. Harmful ultra-violet rays are emitted everyday (even on cloudy days) by the sun. Sunscreen that is water-resistant, has broad-spectrum prevention against UVA and UVB, and has a Sun Protection Factor (SPF) of 30 or higher is preferred.



Available from: <https://www.aad.org/media/stats/prevention-and-care/sunscreen-fags>

Ultraviolet Rays: UVA vs. UVB

UVA: causes wrinkles, some skin cancers, long-term skin damage

UVB: damages DNA in skin cells, causes sunburns and most skin cancers

How to Apply Sunscreen²⁻⁵

- Apply **one ounce of sunscreen** to cover the arms, legs, neck, and face. Make sure to use enough sunscreen to coat the skin that is not covered by clothing.
 - Think “1 ounce, enough to fill a shot glass”
- Apply sunscreen to dry skin about 15 minutes before going outside
- Reapply sunscreen every 2 hours. Reapply more often after swimming or sweating. Application error is thought to be more important than the SPF.⁵

Other Strategies to Reduce the Risk of Skin Cancer and Find Skin Cancer Early²

- Try to stay in the shade (especially between 10:00 am – 2:00 pm)
- Wear sunglasses
- Wear clothing that covers exposed skin (long-sleeved shirts, pants, and wide-brimmed hats)
- Avoid tanning beds! (first use before age 35 nearly doubles the risk of developing cutaneous melanoma)⁶
- Obtain vitamin D through a healthy diet instead of tanning. It is estimated that most people need only 2-8 minutes of unprotected exposure to summer sun for sufficient synthesis of vitamin D₃.⁵
- Examine your skin at least annually to look for changes or unusual spots
 - Self-examination of skin should be in a room with good lighting in front of a full-length mirror
 - Ask a friend or spouse to examine hard to see areas like the scalp and back
- See a dermatologist for examination of any suspicious spots

MEDICATIONS AND PHOTSENSITIVITY



Available from: <http://crooksandliars.com/2016/02/one-pill-makes-you-larger>

Photoallergy vs. Phototoxicity

Two different types of photosensitivity skin reactions may occur in relation to drug therapy. One is a phototoxic reaction, while the other is a photoallergic reaction.^{3,7-10}

- **Photoallergy:** Exposure of the drug to light prompts the drug to become attached to a protein, becoming a hapten. This hapten may cause an allergic skin reaction. This reaction is often a delayed response after several doses of the medication, and cross-reactivity with similar medications is possible.^{3,8,9}

- **Phototoxicity:** Exposure of the drug to UVA light promotes a reaction that causes damage to skin cells. Unlike photoallergic skin reactions, phototoxicity reactions may worsen with increasing doses of the offending medication.^{3,8,9}

Photosensitizing Medications ^{3,8,10}	
Medication Class	Medications with Highest Risk
Anticonvulsants	carbamazepine lamotrigine
Antifungals	voriconazole <ul style="list-style-type: none"> • An increased risk of melanoma and squamous cell carcinoma is associated with voriconazole phototoxicity.^{3,11} • Patients with phototoxicity associated with voriconazole should be seen by a dermatologist and consideration should be given to other antifungal options.^{3,11}
Antimalarials	chloroquine
Diuretics (loop and thiazide)	furosemide hydrochlorothiazide
Fluoroquinolones	ciprofloxacin
NSAIDs	ketoprofen naproxen piroxicam
Sulfonamides	sulfamethoxazole (5-10% incidence)
Sulfonylureas	glipizide glyburide tolbutamide
Tetracyclines	doxycycline tetracycline

Identifying a Photosensitivity Reaction – Questions to ask^{3,8}

- Have you recently started any new medications? / What medications are you taking?
- How long have you been taking the medication? / How many doses of the medication have you taken?
- How much sun exposure did you have prior to developing the rash?
- Is the rash only on parts of skin that were exposed to the sun?
- How extensive is the rash?

Preventing Photosensitivity Reactions – Counseling Points^{3,8}

- Minimize sun exposure. Use sunscreen if you are going to be in the sun.
- If you develop a skin rash related to photosensitivity, talk to your doctor about lowering the dose of the culprit medication or stopping the medication temporarily. Ask your doctor about treating your rash with corticosteroids (oral or topical).
- For medications taken once daily, try taking the medication at night instead of in the morning to reduce photosensitivity risk.



The last “dose” ...

“When it rains it pours and when it shines you get melanoma.”

— Sol Luckman, [Beginner's Luke](#)

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