

REPORT TO THE BOARDS OF HEALTH

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Skin Cancer

Skin cancer is the most commonly diagnosed cancer in the United States. There are three main types of skin cancer: melanoma, basal cell carcinoma, and squamous cell carcinoma.

1. **Melanoma** is the most serious form of skin cancer and is the leading cause of death due to skin cancer. It can affect any race, though Caucasians are more commonly affected. Exposure to UV light is felt to be a risk factor, but not the only risk. About 10% of melanoma occurs in someone with a family history of melanoma and those who previously had a melanoma are at risk for developing another – only about one-third form from pre-existing moles. However, people with numerous moles or unusual appearing moles are at increased risk for melanoma.

Keep an eye on moles following the “A, B, Cs” (see figure 1): A is for asymmetry; B is for border; C is for color; D is for diameter; E is for evolving or changing. Melanoma can affect any part of the body, including inside the eyeball (ocular melanoma) or the mucus membranes such as the lips, mouth, or vagina (mucosal melanoma). Though rare, children can also get melanoma.

2. **Basal Cell Carcinoma (BCC)** is the most common skin cancer and is the most common cancer diagnosed world-wide. It is usually slow growing. It can be a red scaly patch or a pearly nodule (see figure 2). BCC rarely spreads through the body.

3. **Squamous Cell Carcinoma (SCC)** is the second most common skin cancer. SCC can be a scaly area, a firm nodule, or a growth with an ulcer that will not heal (see Figure 2.) SCC rarely spreads through the body. Rough, scaly patches called actinic keratosis may progress to SCC and can be destroyed or removed to prevent skin cancer (see Figure 3.)

Exposure to ultraviolet (UV) rays from sunlight is a major risk factor for most skin cancers. These rays are a form of radiation and are damaging to the DNA, or genetic material, in skin cells just as other forms of radiation are damaging. When DNA is damaged, cells develop abnormally when they reproduce; and these abnormalities can lead to cancer. UVA and UVB are the two types of UV rays that make it through the atmosphere. UVB has a bit more energy and

Figure 1: Is it a mole or melanoma?

A is for asymmetry

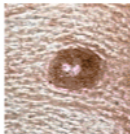
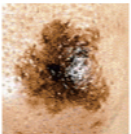




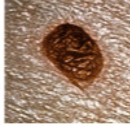

B is for border

C is for color

D is for diameter

E is for evolving (or changing)

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Normal mole	Melanoma	Sign	Characteristic
		Asymmetry	When half of the mole does not match the other half
		Border	When the border or edges of the mole are not smooth
		Color	When the mole has more than one color
		Diameter	If the mole's diameter or width is larger than a pencil eraser

seems to be more damaging to DNA and is the main cause of sun burns. UVA causes long-term damage to skin such as wrinkles and can also damage DNA.

Figure 2: Non-melanoma skin cancer

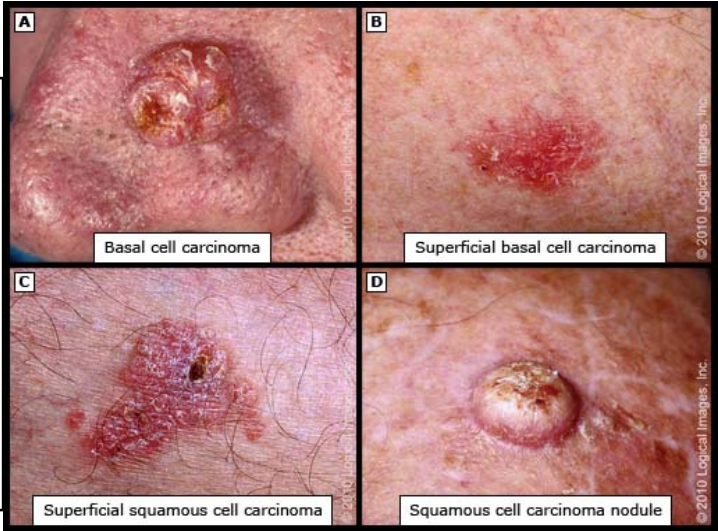
A. A raised or flat area of the skin with a sore that won't heal can be a sign of a basal cell skin cancer.

B. Some basal cell skin cancers can look like flat, pink spots on the skin that do not go away.

C. This red scaly spot is a squamous cell skin cancer.

D. This pink, scaly bump is a squamous cell skin cancer.

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Melanomas are more associated with intense and intermittent sun exposure and sunburns and occur on areas of the body such as the back in men and the legs in women. Children and teens that have five or more severe sunburns are twice as likely to develop melanoma later in life. Non-melanoma skin cancer, such as BCC and SCC, are linked with overall sun exposure and mainly occur in areas of the body that get the most sun such as the face, back of the hands, and arms.

Multiple studies have found that tanning beds, which primarily use UVA light, increase the rate of melanoma of the skin and the eye; and in 2009, the World Health Organization classified them as a human carcinogen.

People with suppressed immune systems, such as those on immunosuppressing medications after an organ transplant, those with lymphoma, and those with HIV have increased rates of all types of skin cancer. Other risk factors for skin cancer include: fair skin; older age; being male; smoking (especially for SCC); HPV/warts (typically limited to SCC in oral/genital/anal areas); exposure to ionizing radiation; exposure to certain chemicals (tar, arsenic, coal, paraffin, certain oil); certain longstanding and rare skin diseases; scars from severe burns, and; genetics.

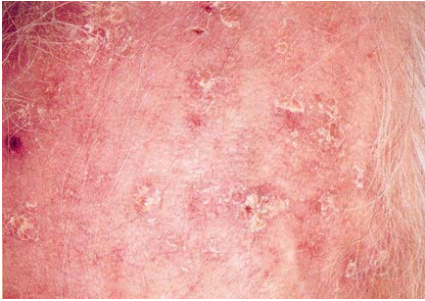
Prevention

Prevention of skin cancer is ideal. This is done by protecting your skin from UV rays from the sun and indoor tanning. There are many ways you can do this:

1. Seek shade when UV rays are strongest.
 - Typically, 10 a.m. to 4 p.m. March through October and 9 a.m. to 3 p.m. November through February.
 - You can use “the shadow rule”: if your shadow is shorter than you are, you are being exposed to more UV rays and should seek shade as well as skin and eye protection. If your shadow is taller than you, UV exposure is lower.
 - Go to <https://www.epa.gov/sunsafety/uv-index-1> to find the UV index forecast for your area. Low is 0 to 2; moderate is 3 to 5; high is 6 to 7; very high is 8 to 10; 11 or more is extreme.

Figure 3: Actinic keratosis

Multiple actinic keratoses presents as rough, scaly, red macules on sun-damaged skin.



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2. Wear clothing that covers arms and legs and a hat with a wide brim.
 - The typical T-shirt has an SPF rating lower than 15 so it alone is not enough protection. A wet T-shirt offers much less protection. Dark colors offer more protection.
 - For a list of sun protective clothing and other products approved by the Skin Cancer Foundation, so to <https://www.skincancer.org/products/categories>.
3. Wear sunglasses that block both UVA and UVB.
4. Use a broad-spectrum sunscreen with SPF 30 or higher for protection from UVA and UVB rays.
 - Apply sunscreen 15 minutes before going outdoors and reapply every 2 hours and after swimming, sweating, or toweling off.
5. Be extra cautious near reflective surfaces like water, snow, sand, and concrete.
6. UV rays can still damage your skin when it is cool or cloudy.

There is no such thing as a “safe tan,” or getting a base tan to prevent burns, etc. Avoid tanning beds and burns.

Tips and facts about sunscreen

1. Sunscreens either reflect or absorb UV rays.
2. SPF: this stands for Sun Protection Factor.
 - SPF is a measure of the sunscreen’s ability to protect against sunburn, primarily caused by UVB rays.
 - SPF 15 blocks 93% of UVB rays, SPF 30 blocks 97%, SPF 50 blocks 98%, and SPF 100 blocks 99%.
 - The “15” in SPF 15 means, assuming the sunscreen didn’t wear off, it would take 15 times longer for you to burn than if you did not have the sunscreen on. If you would normally burn in 20 minutes with no sunscreen, you would burn after 5 hrs. with SPF 15. Likewise, you would burn after 10 hours with SPF 30.
3. It is recommended that broad-spectrum sunscreen with SPF 30 or higher is used when spending time outdoors. It is recommended that SPF 15 or higher is used daily.
4. The average adult should use 1 oz. (a shot glass full) of sunscreen to adequately cover their skin.
 - An easy way to estimate this is to apply a teaspoon (about a marble size) of sunscreen to the face and neck, 2 teaspoons to the front and back of the trunk, 1 teaspoon to each arm, and 2 teaspoons to each leg.
5. Sunscreens labeled broad-spectrum have passed the FDA test for protection against both UVA and UVB rays.
6. Sunscreen labeled water-resistant or very water-resistant means that the SPF is maintained after 40 or 80 minutes in water or sweating, respectively.
7. The American Academy of Pediatrics recommends not using sunscreen on children under six months of age unless there is no other option.
8. Sunscreen is the #1 anti-aging treatment.

Healthy Living Recommendations

1. Watch your skin for common signs of skin cancer such as new growths, changes in moles, or sores that don't heal. See your healthcare provider or dermatologist if you notice anything concerning.
2. UV rays are the main risk factor for the most common skin cancers. Protect yourself with sunscreen, covering skin, and avoiding high UV exposure.
3. Indoor tanning is not a safe alternative and should be discouraged, along with sunbathing. Children and teens should be taught this message early and repeatedly.
 - Michigan allows minors to use tanning devices as long as a parent provides in-person consent which is then valid for one year. In the U.S., 20 states and the District of Columbia have prohibited minors under 18 (17 in some cases) from using tanning devices, recognizing them as a health threat.

References

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