

Just the Facts: Skin Cancer

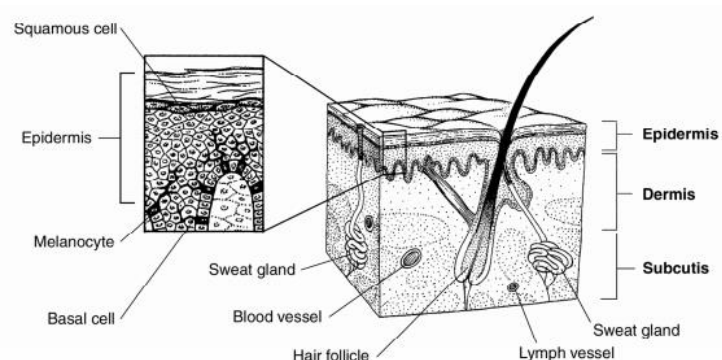
Skin cancer is the most commonly diagnosed cancer in the United States, and rates have been rising for the past 30 years.¹ Over 104,300 *invasive* skin cancers will be diagnosed in the U.S. in 2019, and more than 96,400 of these cases will be melanoma, the most serious and deadliest form of skin cancer.¹ Additionally, over 95,800 cases of *non-invasive* melanomas and millions of cases of basal (BCC) and squamous cell (SCC) skin cancers will also be diagnosed in 2018.¹ In total, over 11,600 men and women are expected to die of skin cancer this year, and over 7,200 of those deaths will be from melanoma.¹

The costs associated with skin cancer exceed \$8 billion each year – \$3.3 billion of that total is for melanoma treatment.²

Three Types of Skin Cancer

There are three main types of skin cancer:^{3,4}

1. *Melanoma* – begins in the melanocytes and is the deadliest form of skin cancer.
2. *Squamous cell cancers* – starts in the squamous cells of the skin and typically appear on sun-exposed areas.
3. *Basal cell cancers* – begins in the basal cell layer of the skin and grow slowly and rarely spread to other parts of the body.



Risk Factors for Skin Cancer

Exposure to ultraviolet (UV) radiation, in any form, can lead to DNA damage to skin, resulting in short-term adverse effects such as sunburn, eye damage, fainting, and suppression of the immune system.^{1,5,6} The damage of UV radiation is cumulative over an individual's lifetime.¹ Repeated exposure can result in long-term effects such as premature aging of the skin, wrinkles, solar keratosis (scaly growth on the skin), permanent eye damage, and skin and ocular cancers.^{1,3}

The two types of UV radiation that cause the most damage to skin are:^{7,8}

- UVA – The most common kind of UV light which penetrates below the top layer of skin. Wavelength ranges from 315 to 400 nanometers (nm).
- UVB – UV light which does not penetrate as deeply as UVA rays, but still damages the skin. Wavelength ranges from 280 to 315 nm.

Other risk factors include:⁹

- Use of indoor tanning devices
- Fair skin, freckling, and/or light hair
- Presence of moles
- Personal or family history of skin cancer, especially melanoma
- Older age
- Weakened immune system
- Smoking
- Long-term skin conditions, rare inherited conditions, and certain treatments for some medical conditions.

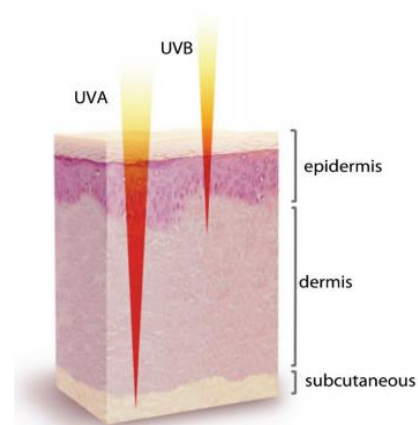


Image Citation: U.S. Department of Health and Human Services. "Surgeon General's Call to Action to Prevent Skin Cancer." Washington, DC: U.S. Dept of Health and Human Services, Office of the Surgeon General; 2014.

Prevention of Skin Cancer

Avoiding exposure to UV light is the best way to prevent skin cancer.⁹ This can be done by:^{9,10}

- Avoiding indoor tanning devices.
- Seeking shade when outdoors in the sun, especially between 10 a.m. and 4 p.m.
- Wearing sun-protective clothing, such as long sleeves, pants, hats, and UV protective sunglasses.
- Using broad spectrum sunscreen with a SPF of 30 or greater to exposed skin.

¹ American Cancer Society. *Cancer Facts & Figures 2019*. Atlanta, GA: American Cancer Society; 2019.

² Guy GP Jr, Machlin SR, Ekwueme DU, Yabroff R. Prevalence and costs of skin cancer treatment in the U.S., 2002-2006 and 2007-2011. *Am J Prev Med*. 2015; 48(2): 183-187. doi:10.1016/j.amepre.2014.08.036.

³ American Cancer Society. Skin Cancer. Accessed January 2019. <https://www.cancer.org/cancer/skin-cancer/prevention-and-early-detection/what-is-skin-cancer.html>.

⁴ National Cancer Institute. General information about skin cancer. Updated June 21, 2017. Accessed January 2019. https://www.cancer.gov/types/skin/patient/skin-prevention-pdq#section/_4.

⁵ Eller MS, Maeda T, Magnoni C, Atwal D, Gilchrest BA. Enhancement of DNA repair in human skin cells by thymidine dinucleotides: evidence for a p53-mediated mammalian SOS response. *Proc Natl Acad Sci U S A*. 1997;94(23):12627-12632.

⁶ Guy GP, Watson M, Haileyesus T, Annett JL. Indoor tanning-related injuries treated in a national sample of US hospital emergency departments. *JAMA Internal Medicine*. 2015; 175(2): 309-311.

⁷ Centers for Disease Control and Prevention. What is skin cancer? Updated June 26, 2018. Accessed January 2019. http://www.cdc.gov/cancer/skin/basic_info/what-is-skin-cancer.htm#uv.

⁸ National Toxicology Program U.S. Department of Health and Human Services. Scientific review of ultraviolet (UV) radiation, broad spectrum and UVA, UVB, and UVC. Accessed January 2019. <https://ntp.niehs.nih.gov/ntp/roc/content/profiles/ultravioletradiationrelatedexposures.pdf>.

⁹ American Cancer Society. *Cancer prevention and early detection Facts & Figures 2017-2018*. Atlanta: American Cancer Society; 2017.

¹⁰ National Cancer Institute. *Skin cancer prevention*. Updated June 21, 2017. Accessed January 2019. https://www.cancer.gov/types/skin/patient/skin-prevention-pdq#section/_16.