



What is the Impact on Indiana Residents?

Table 10. Burden of Melanoma — Indiana, 2008–2012

	Average number of cases per year (2008–2012)	Rate per 100,000 people* (2008–2012)	Number of cases (2012)	Rate per 100,000 people* (2012)
Indiana Incidence	1,191	17.4	1,091	15.8
Indiana Mortality	214	3.1	192	2.7

* Age-adjusted

Source: Indiana State Cancer Registry

Note: The number of basal cell and squamous cell skin cancers (i.e., nonmelanoma skin cancers, or NMSC) is difficult to estimate because these cases are not required to be reported to the Indiana State Cancer Registry. According to one report, in 2006 an estimated 3.5 million cases of NMSC occurred among US residents.² Because of the limitations of the NMSC data, most of the data reported in this section are only for melanoma.

MELANOMA/SKIN CANCER

Bottom Line

Skin cancer (*i.e.*, melanoma and non-melanoma skin cancer) is an uncontrolled growth and spread of cells or lesions in the epidermis (the outer layer of skin). Excessive exposure to ultraviolet (UV) radiation from the sun or other sources, like tanning beds, is the greatest risk factor for developing skin cancer. Overall, skin cancers affect more people than lung, breast, colon, and prostate cancers combined. The two most common forms of non-melanoma skin cancers (NMSC) are basal cell and squamous cell carcinoma. Melanoma accounts for less than two percent of skin cancer cases, but causes the most skin cancer deaths.¹ Overall, the lifetime risk of getting melanoma is about one in 50 for whites, one in 1,000 for African Americans, and one in 200 for Hispanics.²

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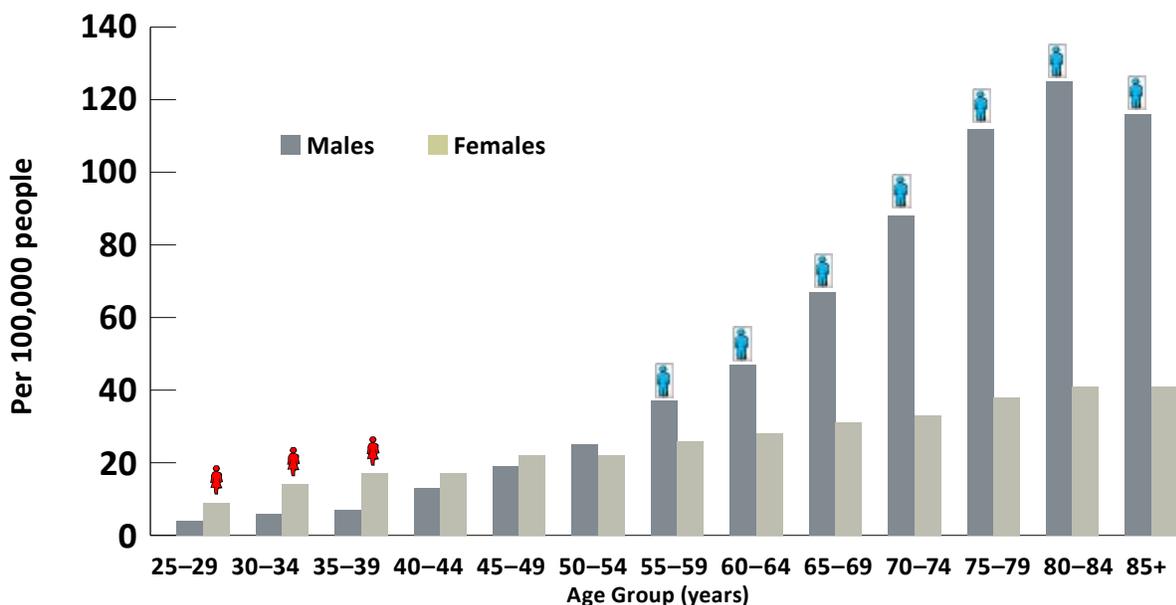
Who gets Melanoma/Skin Cancer?

People of all ages, races, and ethnicities are subject to developing skin cancer. Some risk factors include:

- **Age.** During 2008-2012, more than 74 percent of melanoma cases occurred among Indiana residents ages 50 and older [Figure 24]. However, nationally, melanoma is on the rise among younger people.³

- **Sex.** Overall, during 2008-2012, the incidence rate for melanoma among Indiana males was 30 percent higher than among females. However, before the age of 50, the incidence rate among females was 64 percent higher than among males. Then, among people ages 55 and older, males had more than twice the risk that females did.³
- **Race.** During 2008-2012, the risk of melanoma was 15 times higher for Indiana whites than for African Americans; however, anyone can develop the disease.³
- **Fair to light skinned complexion.** Freckles are an indicator of sun sensitivity and sun damage.
- **Hair and eye color.** People with natural blonde or red hair or blue or green eyes are more susceptible to a higher risk of developing melanoma.
- **Multiple or atypical nevi (moles).** People who have a large number of moles (more than 50) often have a higher risk of developing melanoma.
- **Family history.** The risk for developing melanoma is greater for someone who has had one or more close relatives diagnosed with the disease.
- **Excessive exposure to UV radiation from the sun and tanning beds.** The US Department of Health and Human Services and the International Agency of Research on Cancer panel has found that exposure to sunlamps or sunbeds is *known to be a human carcinogen* based on sufficient evidence of carcinogenicity from studies in humans.⁴
- **History of sunburn.** Sunburn at an early age can increase a person's risk for developing melanoma and other skin cancers.

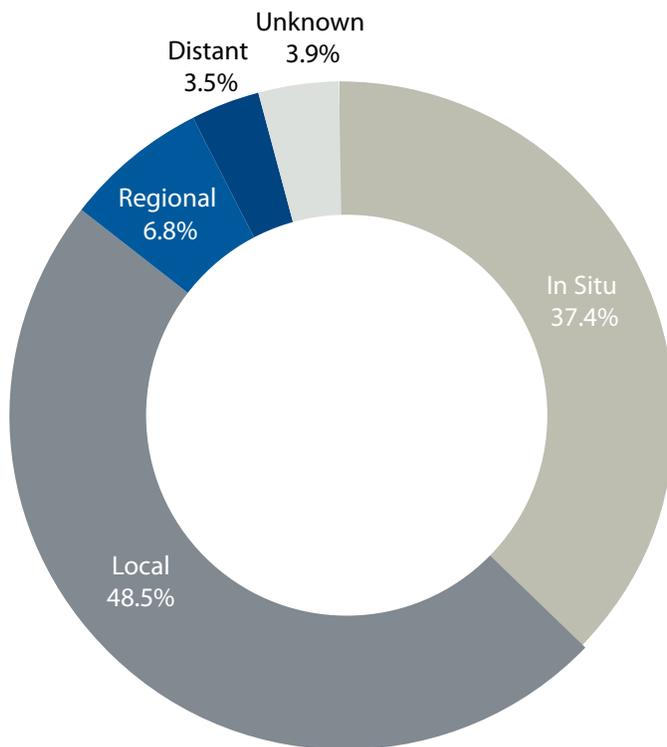
Figure 24. Incidence of Melanoma Skin Cancer by Age Group and Sex, Indiana 2008-2012



= Significantly elevated ($P < .05$) among females compared to males
 = Significantly elevated ($P < .05$) among males compared to females

Source: Indiana State Cancer Registry

Figure 25. Percent of Melanoma Cases Diagnosed During Each Stage* — Indiana, 2008–2012



* Includes invasive and in situ cases

During 2008–2012, of the 9,506 Indiana residents who received a diagnosis of in situ or invasive melanoma, 8,166 (85.9%) were diagnosed in the in situ or local stage, 972 (10.2%) were diagnosed in the regional or distant stage, and 3.9% in the unknown stage.

Source: Indiana State Cancer Registry

- **Diseases that suppress the immune system.** People who have a weakened immune system, or who are being treated with immune-suppressing medicines, have an increased risk for melanoma.²
- **Past history of basal cell or squamous cell skin cancers.**
- **Occupational exposure to coal tar, pitch, creosote, arsenic compounds, radium, or some pesticides.**

Can Skin Cancer be Detected Early? — see the “Be Aware” box for additional information

The best way to detect skin cancer early is to recognize changes in skin growths or the appearance of new growths. Adults should thoroughly examine their skin regularly, preferably once a month. New or unusual lesions or a progressive change in a lesion’s appearance (size, shape, or color, for example) should be evaluated promptly by a health care provider.

Melanomas often start as small, mole-like growths that increase in size and might change color. Basal cell carcinoma might appear as growths that are flat or as small raised pink or red, translucent, shiny areas that might bleed following minor injury. Squamous cell carcinoma might appear as growing lumps, often with a rough surface, or as flat, reddish patches that grow slowly.

BE AWARE!

Common Signs and Symptoms of Melanoma

A simple **ABCDE** rule outlines some warning signs of melanoma:

A = Asymmetry: One half of the mole (or lesion) does not match the other half.

B = Border: Border irregularity; the edges are ragged, notched or blurred.

C = Color: The pigmentation is not uniform, with variable degrees of tan, brown, or black.

D = Diameter: The diameter of a mole or skin lesion is greater than 6 millimeters (or the size of a pencil eraser).

E = Evolution: When existing moles change in shape, size or color. Any sudden increase in size of an existing mole should be checked.

*Melanoma might appear differently than what is described in the **ABCDE** rule, so discuss any changes to existing moles or new growths on the skin with your health care provider.*

What Factors Influence Survival?

Most basal and squamous cell carcinomas can be cured, especially if the cancer is detected and treated early. Early stage basal and squamous cell carcinomas can be removed in most cases by one of several methods including surgical excision, electrodesiccation, and curettage (tissue destruction by electric current and removed by scraping with a curette), or cryosurgery (tissue destruction by freezing). Radiation therapy and certain topical medications may be used in some cases.

Melanoma is also highly curable if detected in its earliest stages and treated properly. Treatment involves removing the primary growth and surrounding normal tissue. Sometimes, a sentinel lymph node is biopsied to determine stage.¹ Additional, extensive lymph node surgery may be needed if lymph node metastases are present. Treatment for advanced cases of melanoma includes palliative surgery, newer targeted or immunotherapy drugs, and sometimes chemotherapy and/or radiation therapy. The treatment of advanced melanoma has changed with the US Food and Drug Administration approval of targeted drugs such as vemurafenib (Zelboraf), dabrafenib (Tafinlar), trametinib (Mekinist), and the immunotherapy drugs ipilimumab (Yervoy) and pembrolizumab (Keytruda).¹

Melanoma is more likely than other skin cancers to spread to other parts of the body (*i.e.* legs, pelvis, spine, bones, liver, and brain). The five-year survival rate for people with melanoma is 91 percent. For localized melanoma (48.5 percent of cases diagnosed in Indiana), the five-year survival rate is 98 percent. When melanoma is spread regionally (6.8 percent of cases diagnosed in Indiana), the five-year survival rate is 62 percent. In Indiana, during 2008-2012, 3.5 percent of cases were diagnosed in the distant stage. For those diagnosed during this stage, the five-year survival rate declines to just 16 percent.

REFERENCES

- ¹ American Cancer Society. *Cancer Facts & Figures 2015*. Atlanta: American Cancer Society; 2015. Accessed at www.cancer.org/research/cancerfactsstatistics/cancerfactsfigures2015/index on February 5, 2015.
- ² American Cancer Society. *Melanoma Skin Cancer Overview*. 2013. Accessed at www.cancer.org/cancer/skincancer-melanoma/detailedguide/index on December 3, 2014.
- ³ Indiana State Cancer Registry Statistics Report Generator. Accessed online at <http://www.in.gov/isdh/24360.htm> on December 3, 2014.
- ⁴ US Department of Health and Human Services, Public Health Services, National Toxicology Program. *13th Report on Carcinogens 2014*. Accessed at <http://ntp.niehs.nih.gov/pubhealth/roc/roc13/index.html> on December 3, 2014.

TAKE CHARGE!

What You Can Do to Help Prevent Skin Cancer

- Limit or avoid exposure to the sun during peak hours (10 a.m. to 4 p.m.).
- Wear sunscreen with a Sun Protection Factor (SPF) of 30 or higher that protects you from both UVA and UVB rays. These are called “broad spectrum” sunscreens.
- Wear clothing that has built-in SPF in the fabric or wear protective clothing such as long sleeves and long pants (tightly woven dark fabrics protect your skin better than lightly colored, loosely woven fabrics).
- Wear a hat that protects your scalp and shades your face, neck, and ears.
- Avoid use of tanning beds and sun lamps.
- Wear sunglasses to protect your eyes from ocular melanoma (melanoma of the eye).
- ALWAYS protect your skin. Your skin is still exposed to UV rays on cloudy days and during the winter months. Use extra caution around water, snow, and sand as they reflect the sun’s ultraviolet rays.