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Eye Cancer Causes, Risk Factors, and Prevention

Learn about the risk factors for eye cancer (ocular melanoma) and what you might be able to do to help prevent it.

Risk Factors

A risk factor is anything that increases your chances of getting a disease such as cancer. Learn more about the risk factors for eye cancer.

- [Risk Factors for Eye Cancer](#)
- [What Causes Eye Cancer?](#)

Prevention

There is no sure way to prevent eye cancer, but there may be things you can do that might lower your risk.

- [Can Eye Cancer Be Prevented?](#)

Risk Factors for Eye Cancer

- [Race/ethnicity](#)
- [Eye color](#)

- [Age and sex](#)
- [Certain inherited conditions](#)
- [Moles](#)
- [Family history](#)
- [Unproven risk factors](#)

A risk factor is anything that increases your chance of getting a disease such as cancer. Different cancers have different risk factors. Some risk factors, like smoking, can be changed. Others, like a person's age or family history, can't be changed.

But having a known risk factor, or even several risk factors, does not mean that you will get the disease. And many people who get the disease may have few or no known risk factors.

Race/ethnicity

The risk of eye melanoma is much higher in White people than in African Americans, Hispanics, or Asian Americans.

Eye color

People with light colored eyes are somewhat more likely to develop uveal melanoma of the eye than are people with darker eye and skin color.

Age and sex

Eye melanomas can occur at any age, but the risk goes up as people get older. Eye melanoma is slightly more common in men than in women.

Certain inherited conditions

People with *dysplastic nevus syndrome*, who have many abnormal moles on the skin, are at increased risk of skin melanoma. They also seem to have a higher risk of developing melanoma of the eye.

People with abnormal brown spots on the uvea (known as *oculodermal melanocytosis* or *nevus of Ota*) also have an increased risk of developing uveal eye melanoma.

BAP1 cancer syndrome is a rare inherited condition in which family members are at increased risk for uveal eye melanoma, as well as [melanoma of the skin](#),¹ [mesothelioma](#)², [kidney cancer](#)³ and others. This condition is caused by an inherited mutation (change) in the *BAP1* gene and tends to form aggressive cancers that appear at younger ages.

Moles

Different types of moles (nevi) in the eye or on the skin have been associated with an increased risk of uveal eye melanoma. In the eye, these include choroidal, giant choroidal, and iris nevi; on the skin, atypical nevi, common nevi of the skin, and freckles. An eye condition, known as primary acquired melanosis (PAM), where the melanocytes in the eye grow too much, is a risk factor for conjunctival melanoma.

Family history

Uveal eye melanomas can run in some families, but this is very rare and the genetic reasons for this are still being investigated.

Unproven risk factors

Sun exposure: Too much exposure to sunlight (or sunlamps), a known risk factor for melanoma of the skin, has also been proposed as a possible risk factor for uveal or conjunctival melanoma of the eye, but studies so far have shown mixed results. More research is needed to answer this question.

Certain occupations: Some studies have suggested that welders may have a higher risk of uveal eye melanoma (of the choroid and ciliary body), but more studies are being done.

Skin melanoma: Some patients with uveal eye melanoma have a history of melanoma of the skin, but it is still not known if having skin melanoma increases your risk of eye melanoma.

Hyperlinks

1. www.cancer.org/cancer/types/melanoma-skin-cancer.html

2. www.cancer.org/cancer/types/malignant-mesothelioma.html
3. www.cancer.org/cancer/types/kidney-cancer.html

References

Doherty RE, Alfawaz M, et al. Genetics of Uveal Melanoma. In Scott JF, Gerstenblith MR, eds. *Noncutaneous Melanoma* [Internet]. Brisbane (AU): Codon Publications; 2018 Mar. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK506988/> doi: 10.15586/codon.noncutaneousmelanoma.2018.

Finger PT. Chapter 116: Intraocular melanoma. In: DeVita VT, Lawrence TS, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 10th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2015.

Grisanti S, Tura A. Uveal Melanoma. In Scott JF, Gerstenblith MR, eds. *Noncutaneous Melanoma* [Internet]. Brisbane (AU): Codon Publications; 2018 Mar. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK506988/> doi: 10.15586/codon.noncutaneousmelanoma.2018.

Harbour JW, Shih HA. Initial management of uveal and conjunctival melanomas. Initial management of uveal and conjunctival melanomas. UpToDate website. <https://www.uptodate.com/contents/initial-management-of-uveal-and-conjunctival-melanomas>. Updated Aug. 3, 2018. Accessed August 27, 2018.

Jovanovic P, Mihajlovic M, Djordjevic-Jocic J, Vlajkovic S, Cekic S, Stefanovic V. Ocular melanoma: an overview of the current status. *International Journal of Clinical and Experimental Pathology*. 2013;6(7):1230-1244.

Karcioglu ZA, Haik BG. Chapter 67: Eye, orbit, and adnexal structures. In: Niederhuber JE, Armitage JO, Dorshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 5th ed. Philadelphia, Pa. Elsevier: 2014.

Masoomian B, Shields JA, Shields CL. Overview of BAP1 cancer predisposition syndrome and the relationship to uveal melanoma. *Journal of Current Ophthalmology*. 2018;30(2):102-109. doi:10.1016/j.joco.2018.02.005.

Mahendraraj K, Lau CS, Lee I, Chamberlain RS. Trends in incidence, survival, and management of uveal melanoma: a population-based study of 7,516 patients from the Surveillance, Epidemiology, and End Results database (1973–2012). *Clinical Ophthalmology (Auckland, NZ)*. 2016;10:2113-2119. doi:10.2147/OPHTH.S113623.

National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in

What Causes Eye Cancer?

Scientists are studying these and other DNA changes to learn more about them and how they might lead to eye cancer. But it is still not exactly clear what causes these changes to occur in some people and not others.

References

Doherty RE, Alfawaz M, et al. Genetics of Uveal Melanoma. In Scott JF, Gerstenblith MR, eds. *Noncutaneous Melanoma* [Internet]. Brisbane (AU): Codon Publications; 2018 Mar. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK506988/> doi: 10.15586/codon.noncutaneousmelanoma.2018.

Masoomian B, Shields JA, Shields CL. Overview of BAP1 cancer predisposition syndrome and the relationship to uveal melanoma. *Journal of Current Ophthalmology*. 2018;30(2):102-109. doi:10.1016/j.joco.2018.02.005.

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Can Eye Cancer Be Prevented?

We do not yet know [what causes most eye cancers](#), so it is not yet possible to prevent them.

We know there is a link between sunlight and melanomas of the skin, and there are [things you can do](#)¹ that might reduce your risk of these cancers, including limiting your exposure to intense sunlight, covering up with protective hats and clothing, and using sunscreen.

The American Cancer Society also recommends wearing UV-protected sunglasses when outside in strong sunlight. Wrap-around sunglasses with 99% to 100% UVA and UVB absorption provide the best protection for the eyes and the surrounding skin. This might help reduce the risk of developing cancers of the skin around the eyes. The link between sunlight and eye melanomas is not proven, but some doctors think that sunglasses might also reduce eye melanoma risk.

Hyperlinks

1. www.cancer.org/cancer/risk-prevention/sun-and-uv/uv-protection.html

References

Grisanti S, Tura A. Uveal Melanoma. In Scott JF, Gerstenblith MR, eds. *Noncutaneous Melanoma* [Internet]. Brisbane (AU): Codon Publications; 2018 Mar. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK506988/> doi: 10.15586/codon.noncutaneousmelanoma.2018.

Jovanovic P, Mihajlovic M, Djordjevic-Jocic J, Vlajkovic S, Cekic S, Stefanovic V. Ocular melanoma: an overview of the current status. *International Journal of Clinical and Experimental Pathology*. 2013;6(7):1230-1244.

Karcioglu ZA, Haik BG. Chapter 67: Eye, orbit, and adnexal structures. In: Niederhuber JE, Armitage JO, Dorshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 5th ed. Philadelphia, Pa. Elsevier: 2014.

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