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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?](#)
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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.

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

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What Causes Eye Cancer?

The exact cause of most eye cancers is not known. But scientists have found that the disease is linked with some other conditions, which are described in [Risk Factors for Eye Cancer](#). A great deal of research is being done to learn more about the causes.

Scientists are learning how certain changes in the DNA inside cells can cause the cells to become cancer. DNA is the chemical in each of our cells that makes up our *genes*, the instructions for how our cells function. We usually look like our parents because they are the source of our DNA. But DNA can also influence our risk for developing certain diseases, such as some kinds of cancer.

Some genes control when our cells grow, divide into new cells, and die.

- Genes that help cells grow, divide, or stay alive are called *oncogenes*.
- Genes that slow down cell division or cause cells to die at the right time are called *tumor suppressor genes*.

Cancers can be caused by DNA changes that turn on oncogenes or turn off tumor suppressor genes.

Some people with cancer have DNA changes they inherited from a parent that increase their risk for the disease. For example, some people inherit a mutation (change) in the *BAP1* tumor suppressor gene, which raises their risk of eye melanoma and some other cancers. When the *BAP1* gene is mutated, it doesn't work normally, which can allow cells with this change to grow out of control.

Most DNA changes linked to cancer are acquired during a person's life rather than inherited before birth. For example, about half of uveal eye melanomas have changes in either of 2 related oncogenes, *GNA11* or *GNAQ*.

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.

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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

