Ocular Melanoma

What is ocular melanoma?

Ocular melanoma (melanoma in or around the eye) is a type of cancer that develops in the cells that produce pigment. Pigment is the substance that gives color to your skin, hair and eyes. Just as you can develop melanoma on your skin, you can also develop it inside your eye or on your conjunctiva. Although it is the most common eye cancer in adults, ocular melanoma is very rare.

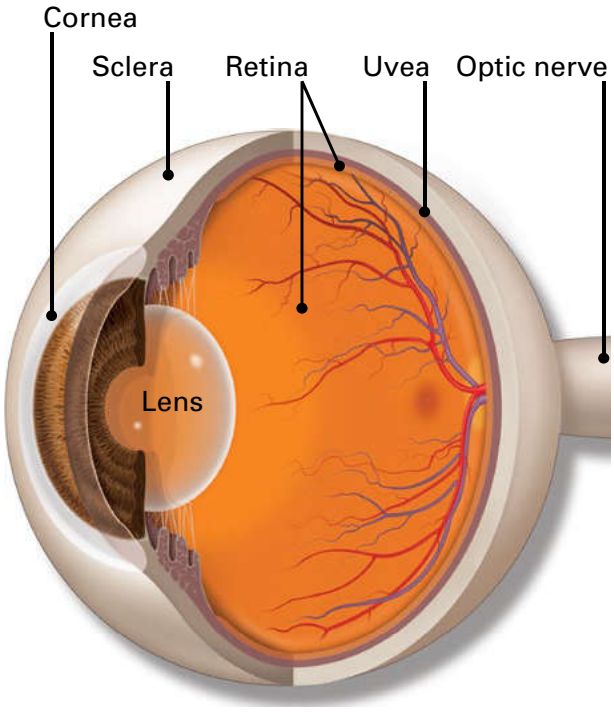
Ocular melanomas usually begin in the middle of the three layers of your eye. The outer layer of your eye is the sclera. The innermost layer is the retina. The middle layer between the sclera and retina is called the uvea.

Rarely, eye melanoma can also occur on the conjunctiva.

Because most eye melanomas form in the part of the eye you can't see when looking in a mirror, they can be difficult to detect. Also, eye melanoma typically doesn't cause early signs or symptoms. That's why it is so important to see your ophthalmologist regularly.

What causes ocular melanoma?

It is not clear why eye melanomas develop. We do know that people born with certain growths in or on the eye, as well as those with lighter colored eyes, are at a greater risk for developing ocular melanoma.



Eye Words to Know

Sclera: The outer wall of the eye, or what is known as the "white" of the eye.

Uvea: The middle layer of the eyeball. The uvea contains the pigment cells that give rise to melanoma and many blood vessels – the veins, arteries, and capillaries – that carry blood to and from the eye.

Retina: Layer of nerve cells lining the back wall inside the eye. This layer senses light and sends signals to the brain so you can see.

Conjunctiva: Clear tissue covering the white part of the eye and the inside of your eyelids.

Ocular melanoma occurs when the DNA of the pigment cells of the eye develop errors. These errors cause the cells to multiply out of control. The mutated cells collect in or on the eye and form a melanoma.

Certain factors increase your risk for developing melanoma. These include:

- exposure to natural sunlight or artificial sunlight (such as from tanning beds) over long periods of time may cause a melanoma on the surface of the eye (conjunctival melanoma)
- having light-colored eyes (blue or green eyes)
- older age
- caucasian descent
- having certain inherited skin conditions, such as dysplastic nevus syndrome, which cause abnormal moles
- having abnormal skin pigmentation involving the eyelids and increased pigmentation in the uvea; and
- having a mole in the eye or on the eye's surface

What are symptoms of ocular melanoma?

In its early stages, ocular melanoma may not cause any symptoms. Because most melanomas develop in the part of the eye you cannot see, you may not know that you have a melanoma.

When ocular melanoma symptoms do occur, they can include:

- a dark spot on the iris or conjuctiva
- blurred or distorted vision or a blind spot in your side vision
- the sensation of flashing lights
- a change in the shape of the pupil

How is ocular melanoma diagnosed?

Diagnosing eye melanoma begins with a dilated eye exam by an ophthalmologist. Because ocular melanoma may not cause any symptoms at first, the disease is often detected during a routine eye exam.

A melanoma differs from a nevus, or mole in, or on the eye. Melanomas inside the eye are more often orange, thicker than usual and can leak fluid.

If your ophthalmologist suspects that you have ocular melanoma, he or she may recommend more tests. These may include:

Ultrasound examination of the eye. An ultrasound examination of the eye is a procedure in which high-energy sound waves (ultrasound) are bounced off the internal tissues of the eye to make echoes. Eye drops are used to numb the eye and a small probe that sends and receives sound waves is placed gently on the surface of the eye. The echoes make a picture of the inside of the eye. The resulting image allows the ophthalmologist to measure the size of the melanoma.

Fluorescein angiography. This procedure uses a dye injected into your arm, which travels into your eye. A special camera then takes pictures of the inside of your eye to see if there is any blockage or leakage.

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Fundus autofluorescence: This test uses a special kind of camera that makes areas of damage reveal themselves as small points of light in a photograph.

Optical coherence tomography. Also known as OCT, this imaging test takes highly detailed pictures of the inside of your eye.

Biopsy If your ophthalmologist thinks you have a conjunctival melanoma, he or she may perform a biopsy. This is when the growth is removed from the surface of the eye. The tissue is then tested and examined in a laboratory. Biopsies are not usually needed to diagnose ocular melanoma, but may reveal information about the tumor and if it might spread to other parts of the body. These tests may need to be repeated regularly for many years.

How is ocular melanoma treated?

If you are diagnosed with ocular melanoma, your treatment options will vary. Treatment will depend on:

- the location and size of the melanoma
- and your general health

Generally, treatment options fall into two categories: radiation and surgery.

Ocular melanoma radiation. In radiation therapy, various types of radiation are used to kill the melanoma or keep it from growing.

The most common type of radiation therapy used for ocular melanoma is called plaque radiation therapy. Radioactive seeds are attached to a disk, called a plaque, and placed directly on the wall of the eye next to the tumor. The plaque, which looks like a tiny bottle cap, is often made of gold. This helps protect nearby tissues from damage from the radiation directed at the tumor. Temporary stitches hold the plaque in place for four or five days, before it is removed.

Radiation therapy can also be delivered by a machine. This machine directs a fine beam of radioactive particles to your eye. This type of radiation therapy is often done over the course of several days.

Ocular melanoma surgery. Depending on the size and location of the melanoma, surgery may be recommended. The surgery may involve removing the tumor and some of the healthy tissue of the eye surrounding it.

For larger tumors, for tumors that cause eye pain, and for tumors involving the optic nerve, the surgery may involve removing the entire eye (enucleation). After the eye is removed, an implant is put in its place and attached to the eye muscles, so that the implant can move. Once you are healed from the surgery, you will be fitted with an artificial eye (prosthesis). It will be custom painted to match your existing eye.

Both radiation and surgery can damage the vision in your eye.

Conjunctival melanoma treatment. For melanoma on the surface of the eye, treatment can include chemotherapy eye drops, freezing treatment, and radiation.

You should talk to your ophthalmologist about how treatment may affect your vision. He or she can also explain the options available to you to help with any vision loss.

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Summary

Ocular melanoma (melanoma in or around the eye) is a type of cancer that develops in the cells that produce pigment. Pigment gives color to your eyes and skin. Ocular melanoma is very rare. It usually develops in the middle layer of the eye, which is called the uvea. No one knows for sure why people get ocular melanoma, but risk factors include having light colored eyes and certain skin conditions. If you have ocular melanoma, treatment will be based on the size and location of the melanoma and your general health.

If you have any questions about your eyes or your vision, speak with your ophthalmologist. He or she is committed to protecting your sight.

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