

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 your skin, hair and eyes color. Just as you can develop melanoma on your skin, you can also develop it in your eye. Although it is the most common eye cancer in adults, ocular melanoma is very rare.

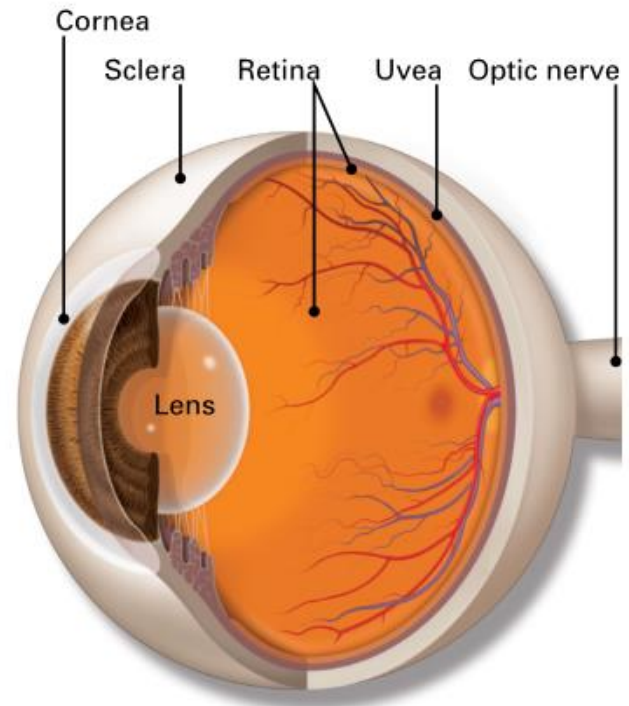
Ocular melanomas usually begin in the middle of the three layers of your eye. The outer layer of your eye is the sclera. The innermost layer is the retina. The middle layer between the sclera and retina is called the uvea.

Though these types are rare, 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. Most melanomas are detected during a routine eye exam. That's why it is so important to see your ophthalmologist regularly.

What causes ocular melanoma?

It is not clear why eye melanomas develop. Researchers have discovered that certain gene mutations are more commonly found in patients who have melanoma. This suggests that there is a strong genetic component to the disease.



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 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 healthy eye cells develop errors. These errors cause the cells to multiply out of control. The mutated cells collect in the eye and form a melanoma.

Certain factors may 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
- having light-colored eyes (blue or green eyes)
- older age
- caucasian descent
- having certain inherited skin conditions, such as dysplastic nevus syndrome, that cause abnormal moles; and
- having abnormal skin pigmentation involving the eyelids and increased pigmentation on the uvea

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 if you have a melanoma.

When ocular melanoma symptoms do occur, they can include:

- a dark spot on the iris
- blurred vision
- the sensation of flashing lights
- a change in the shape of the pupil and/or loss of vision in the affected eye

How is ocular melanoma diagnosed?

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

A melanoma differs from a nevus, or mole in the eye. Melanomas are more often orange, thicker than usual or are leaking 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 thickness 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.

Biopsy. In some cases, your ophthalmologist may perform a biopsy. He or she removes a sample of tissue from your eye so that it can be examined in a laboratory. Biopsies are not usually needed to diagnose ocular melanoma.



It is important to know whether the cancer has spread to other parts of your body. Your ophthalmologist may refer you to another specialist to do more tests to determine whether the melanoma has spread (metastasized).

.....
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

If your melanoma is small, it may not need immediate treatment. Instead, you and your ophthalmologist may decide to watch the melanoma to see if it grows. If it does, or if it begins to cause complications, you may decide to undergo treatment.

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

Ocular melanoma radiation. In radiation therapy, high-powered X-rays or other 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

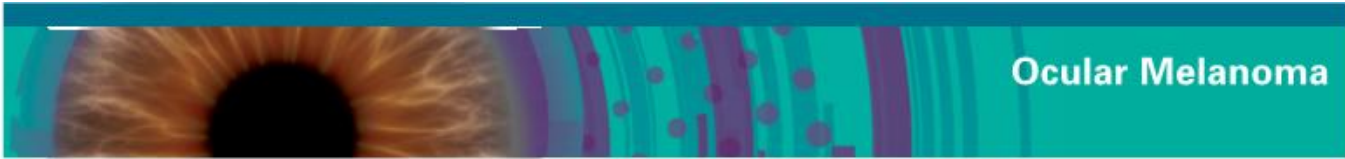
the eye where the tumor is located. The plaque, which looks like a tiny bottle cap, is often made of gold. This helps protect nearby tissues from damage from the radiation directed at the tumor. Temporary stitches hold the plaque in place for four or five days, before it is removed.

Radiation therapy can also be delivered by a machine. This machine directs radioactive particles to your eye through an external beam. 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. For smaller tumors, the surgery may involve removing the tumor and some of the healthy tissue of the eye surrounding it.

For larger tumors and for tumors that cause eye pain, 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.

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.



.....
Summary

Ocular melanoma (melanoma in or around the eye) is a type of cancer that develops in the cells that produce pigment. Pigment gives your eyes and skin color. 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 long-term exposure to natural and artificial sunlight (tanning beds) and having 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.

COMPLIMENTS OF: