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## [Eye Cancer - Stages and Grades](#) [1]

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**ON THIS PAGE:** You will learn about how doctors describe a cancer's growth or spread. This is called the stage. This section also covers grading which describes the composition of cells. To see other pages, use the menu on the side of your screen.

Staging is a way of describing where the cancer is located, if or where it has spread, and whether it is affecting other parts of the body. Doctors use diagnostic tests to find out the cancer's stage, so staging may not be complete until all the tests are finished.

Knowing the stage helps the doctor to decide what kind of treatment is best and can help predict a patient's prognosis, which is the chance of recovery. There are different stage descriptions for different types of cancer.

### **TNM staging system**

One tool that doctors can use to describe the stage is the TNM system. Medical oncologists use this system, but your ophthalmologist may not. Doctors use the results from diagnostic tests and scans to answer these questions:

- **Tumor (T):** How large is the primary tumor? Where is it located?
- **Node (N):** Has the tumor spread to the lymph nodes? If so, where and how many?
- **Metastasis (M):** Has the cancer metastasized to other parts of the body? If so, where and

how much?

The results are combined to determine the stage of cancer for each person. There are four stages: stages I through IV (one through four). The stage provides a common way of describing the cancer, so doctors can work together to plan the best treatments.

Some ophthalmologists may not use the TNM system to stage an intraocular tumor. However, they still consider the size of the tumor and how it is affecting a person's vision when deciding on a treatment plan.

In eye cancer, T for an iris melanoma is described differently than T for choroidal and ciliary body melanomas. N and M are described the same for iris, choroidal, and ciliary body melanomas.

Here are more details on each part of the TNM system for eye cancer:

## **Tumor (T)**

Using the TNM system, the "T" plus a letter and/or number (0 to 4) is used to describe the size and location of the tumor. Some stages are also divided into smaller groups that help describe the tumor in even more detail. The following classifications are the same for any type of intraocular melanoma:

**TX:** The primary tumor cannot be evaluated.

**T0:** There is no tumor in the eye.

## **Iris melanoma**

An iris tumor is classified as T1, T2, T3, or T4. Some stages are divided into smaller groups that help describe the tumor in even more detail.

**T1:** The tumor is limited to the iris.

**T1a:** The tumor is in one quadrant (one-fourth) or less of the iris.

**T1b:** The tumor is in more than one quadrant of the iris.

**T1c:** The tumor is only in the iris, but there is melanolytic glaucoma. This means that a buildup of certain cells in the eye blocks the flow of fluid in the eye, causing pressure.

**T2:** The tumor has joined or grown into the ciliary body and/or choroid.

**T2a:** The tumor has joined or grown into the ciliary body and/or choroid with melanolytic glaucoma.

**T3:** The tumor has joined or grown into the ciliary body and/or choroid and extends to the sclera (outer wall of the eyeball).

**T3a:** The tumor has joined or grown into the ciliary body and/or choroid and extends to the sclera in association with melanolytic glaucoma.

**T4:** The tumor has spread to the outside of the eyeball, the optic nerve, or to the eye socket. This is called extraocular extension.

**T4a:** The tumor has spread less than 5 millimeters (mm) outside of the eye.

**T4b:** The tumor has spread more than 5 mm outside of the eye.

**Ciliary body and choroid melanoma**

A tumor in the ciliary body and choroid is also classified as T1, T2, T3, or T4 based on the size of the tumor, which is measured in optic disc diameters or mm. The tumor is measured for both width and height (also called thickness). A tumor is given a classification according to the table below, based on its width and height.

Your doctors may use and refer to this classification, called a category, even more than the stage. This is because the size and thickness of the tumor (the T) is most important for finding out a patient’s prognosis.

**Size Category Classification Table for Ciliary Body and Choroid Melanoma**

<b>Thickness (mm)</b>	<b>Category</b>						
Thicker than 15 mm					4	4	4
12.1 to 15.0				3	3	4	4
9.1 to 12.0		3	3	3	3	3	4
6.1 to 9.0	2	2	2	2	3	3	4
3.1 to 6.0	1	1	1	2	2	3	4
Less than 3.0	1	1	1	1	2	2	4
<b>Largest basal diameter (mm)</b>	Less than 3.0 mm	3.1 to 6.0 mm	6.1 to 9.0 mm	9.1 to 12.0 mm	12.1 to 15.0 mm	15.1 to 18.0 mm	Larger than 18.0 mm

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**T1:** The tumor is size category 1.

**T1a:** The tumor is size category 1 and does not involve the ciliary body or other parts of the eye.

**T1b:** The tumor is a category 1 and involves the ciliary body.

**T1c:** The tumor is size category 1 that does not involve the ciliary body. But, there is a very small area (5 mm or less in diameter) of visible spread beyond the eyeball. This is called extraocular spread.

**T1d:** The tumor is a size category 1 that involves the ciliary body with extraocular spread less than 5 mm.

**T2:** The tumor is size category 2.

**T2a:** The tumor is size category 2 and does not involve the ciliary body or other parts of the eye.

**T2b:** The tumor is size category 2 and involves the ciliary body.

**T2c:** The tumor is size category 2 that does not involve the ciliary body. But, there is a very small area (5 mm or less in diameter) of visible spread beyond the eyeball.

**T2d:** The tumor is size category 2 that involves the ciliary body with extraocular spread less than 5 mm.

**T3:** The tumor is size category 3.

**T3a:** The tumor is size category 3 and does not involve the ciliary body or other parts of the eye.

**T3b:** The tumor is size category 3 and involves the ciliary body.

**T3c:** The tumor is size category 3 that does not involve the ciliary body. But, there is a very small area (5 mm or less in diameter) of visible spread beyond the eyeball.

**T3d:** The tumor is size category 3 that involves the ciliary body with extraocular spread less than 5 mm.

**T4:** The tumor is size category 4.

**T4a:** The tumor is size category 4 and does not involve the ciliary body or other parts of the eye.

**T4b:** The tumor is size category 4 and involves the ciliary body.

**T4c:** The tumor is size category 4 that does not involve the ciliary body. But, there is a very small area (5 mm or less in diameter) of visible spread beyond the eyeball.

**T4d:** The tumor is size category 4 that involves the ciliary body with extraocular spread less than 5 mm.

**T4e:** The tumor is any size category with extraocular spread of more than 5 mm in diameter.

## **Node (N)**

The “N” in the TNM staging system stands for lymph nodes, the tiny, bean-shaped organs that help fight infection. Lymph nodes near the eye are called regional lymph nodes. Lymph nodes in other parts of the body are called distant lymph nodes. N is described the same for melanomas of the iris, ciliary body, and choroid.

**NX:** The regional lymph nodes cannot be evaluated.

**N0 (N plus zero):** There is no regional lymph node metastasis.

**N1:** There is regional lymph node metastasis.

## **Metastasis (M)**

The “M” in the TNM system indicates whether the cancer has spread from the eye to other parts of the body, called distant metastasis. M is described the same for iris, ciliary body, and choroidal melanomas.

**MX:** Distant metastasis cannot be evaluated.

**M0 (M plus zero):** There is no distant metastasis.

**M1:** There is metastasis to other parts of the body.

**M1a:** There is metastasis to other parts of the body and the largest metastasis is 3 centimeters (cm) or less in diameter.

**M1b:** There is metastasis to other parts of the body and the largest metastasis is between 3.1 cm and 8 cm in diameter.

**M1c:** There is metastasis to other parts of the body and the largest metastasis is larger than 8 cm in diameter.

## **Grade and Histopathology**

Doctors also describe this type of cancer by its grade (G), which describes how much cancer cells look like healthy cells when viewed under a microscope. The doctor compares the cancerous tissue with healthy tissue. Healthy tissue usually contains many different types of cells grouped together.

If the cancer looks similar to healthy tissue and contains different cell groupings, it is called differentiated or a low-grade tumor. If the cancerous tissue looks very different from healthy tissue, it is called poorly differentiated or a high-grade tumor.

The cancer's grade may help the doctor predict how quickly the cancer will spread. In general, the lower the tumor's grade, the better the prognosis.

After a biopsy or when the tumor is surgically removed, doctors may look at the types of cells that are in the tumor; this is called histopathology. Three types of histopathology patterns may be present in the tumor:

- Spindle cell melanoma (the cells are longer and tapered at the ends)
- Epithelioid melanoma (the cells are oval-shaped)
- Mixed cell melanoma (both spindle and epithelioid)

Generally, a tumor made up of spindle cells has a better prognosis than a tumor made up of epithelioid cells. The tumor is given a grade (G) to describe the composition of its cells. A lower grade generally indicates a better prognosis than a higher grade.

**GX:** Grade cannot be evaluated

**G1:** A spindle cell melanoma

**G2:** A mixed cell melanoma

**G3:** An epithelioid melanoma

## **Cancer stage grouping**

Doctors assign the stage of the cancer by combining the T, N, M, and G classifications.

**Stage I:** The tumor is size category 1 and does not involve the ciliary body or other parts of the eye, nor has it spread to the regional lymph nodes or to other areas of the body (T1a, N0, M0).

**Stage IIA:** The tumor is either a size category 1 that may or may not involve the ciliary body, with or without extraocular extension, or it is a size category 2 that does not involve the ciliary body. There is no spread to the regional lymph nodes or to other areas of the body (T1b, T1c, T1d, or T2a; N0, M0).

**Stage IIB:** The tumor is either a size category 2 that involves the ciliary body but has not

spread beyond the eyeball, or it is a size category 3 that has not spread to the ciliary body or eyeball. It has not spread to the regional lymph nodes or to other areas of the body (T2b or T3a; N0, M0).

**Stage IIIA:** Stage IIIA describes any one of these conditions:

- A tumor of size category 2 with extraocular spread to a diameter of 5 mm or less, with or without ciliary body involvement that has not spread to the lymph nodes or to other parts of the body (T2c or T2d, N0, M0)
- A tumor of size category 3 that may or may not involve the ciliary body, with or without extraocular spread to a diameter of 5 mm or less, but hasn't spread to the lymph nodes or to other parts of the body (T3b or T3c, N0, M0)
- A tumor of size category 4 that does not involve the ciliary body and has not spread to the lymph nodes or to other parts of the body (T4a, N0, M0)

**Stage IIIB:** Stage IIIB describes any one of these conditions:

- The tumor is a size category 3 with ciliary body involvement and extraocular spread that has not spread to the lymph nodes or to other parts of the body (T3d, N0, M0).
- The tumor is a size category 4 with or without ciliary body involvement that may or may have spread outside the eyeball. It has not spread to the regional lymph nodes or to other areas of the body (T4b or T4c, N0, M0).

**Stage IIIC:** The tumor is a size category 4 that involves the ciliary body and has spread outside the eyeball. However, it has not spread to the regional lymph nodes or to other areas of the body (T4d or T4e; N0, M0).

**Stage IV:** This stage describes a tumor of any size that has spread to the lymph nodes and/or to other parts of the body outside of the eye (any T, N1, M0; or, any T, any N, M1).

*Used with permission of the American Joint Committee on Cancer (AJCC), Chicago, Illinois. The original source for this material is the AJCC Cancer Staging Manual, Seventh Edition, published by Springer-Verlag New York, [www.cancerstaging.net](http://www.cancerstaging.net) [3]*

## COMS Tumor Classifications

Instead of describing using the TNM system, eye tumors can be classified by these guidelines from the Collaborative Ocular Melanoma Study (COMS).

- Small: 1 mm to 3 mm in height and 5 mm to 16 mm in diameter
- Medium: 3.1 mm to 8 mm in height and not more than 16 mm in diameter
- Large: More than 8 mm in height and more than 16 mm in diameter

## Recurrent

Recurrent cancer is cancer that has come back after treatment. It may return in the eye or in another part of the body. If the cancer does return, there will be another round of tests to learn about the extent of the recurrence. These tests and scans are often similar to those done at the time of the original [diagnosis](#) [4].

*Information about the cancer's stage will help the doctor recommend a specific treatment plan. The [next section in this guide is Treatment Options](#). [5] Or, use the menu on the side of your screen to choose another section to continue reading this guide.*

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### Links

[1] <http://www.cancer.net/cancer-types/eye-cancer/stages-and-grades>

[2] <http://www.cancer.net/about-us>

[3] <http://www.cancerstaging.net/>

[4] <http://www.cancer.net/node/18816>

[5] <http://www.cancer.net/node/18818>