

# Ocular Melanoma in Ohio

---

September 2025



Department of  
Health

## Key Findings

- An average of 120 cases of ocular melanoma (OM) were diagnosed each year in Ohio during the five-year period 2018 through 2022.
- The OM incidence rate in Ohio was 0.8 per 100,000 population, which was 33% higher than the national rate of 0.6 per 100,000.
- OM occurs slightly more often in males than in females.
- White people have much higher incidence rates of OM than Black people in Ohio and the United States.
- OM was most frequently diagnosed among Ohioans ages 55 to 64.
- Ohio's OM incidence rates trended upward from 2002 to 2014, then remained relatively stable through 2022. Nationally, OM rates decreased at an average of 0.6% per year from 2000 to 2022.
- Most OM cases (82.4%) were diagnosed at the local stage in Ohio from 2018 to 2022.

Ocular melanoma (OM), also called intraocular melanoma, is a rare cancer that develops in the eye. OM begins in cells called melanocytes, which produce the pigment melanin. An average of 120 cases of OM were diagnosed annually in Ohio from 2018 through 2022 according to data from the Ohio Cancer Incidence Surveillance System (OCISS), Ohio's central cancer registry.<sup>1</sup> The average annual age-adjusted incidence rate for OM in Ohio during this time period was 0.8 per 100,000 population, which was 33% higher than the national incidence rate of 0.6 per 100,000. The incidence rate among Ohio males diagnosed with OM (0.9 per 100,000) was slightly higher than the rate among females (0.8 per 100,000). The incidence rate was 10 times higher among White Ohioans (1.0 per 100,000), compared with Black Ohioans (0.1 per 100,000) during this five-year period (Table 1). According to the Ocular Melanoma Foundation, OM is the second most common type of melanoma after cutaneous (skin), representing about 5% of all melanoma cases. An average of 13 deaths occurred each year due to malignant eye cancer in Ohio from 2018 through 2022 (data not shown).

**Table 1.** Average Annual Number and Age-Adjusted Incidence Rates of OM Cases per 100,000 Population by Sex and Race, Ohio and the United States, 2018-2022

		Incidence		
		Ohio Cases	Ohio Rate	U.S. Rate
<b>Total</b>		<b>120</b>	<b>0.8</b>	<b>0.6</b>
<b>Sex</b>	<b>Male</b>	61	0.9	0.6
	<b>Female</b>	59	0.8	0.5
<b>Race</b>	<b>White</b>	118	1.0	0.7
	<b>Black</b>	2	0.1	0.1

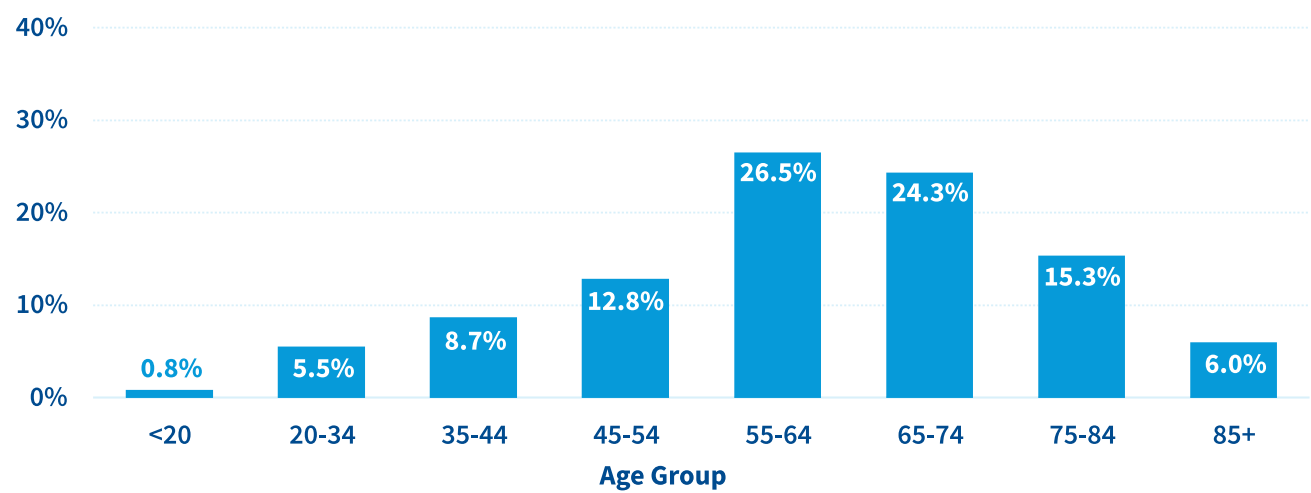
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025; Surveillance, Epidemiology, and End Results (SEER) Program, SEER 21 registries, National Cancer Institute, 2025.

<sup>1</sup>Due to the complexity of the cancer data collection and quality control process, there is typically a 24-month delay between the time a new cancer is diagnosed and the time the data is ready for analysis. Therefore, the most recent incidence data presented in this report is for cancer cases diagnosed through Dec. 31, 2022.

# Incidence by Age Group

In Ohio from 2018 to 2022, OM was most frequently diagnosed among people ages 55 to 64 (26.5%), followed by those ages 65 to 74 (24.3%) (Figure 1).

**Figure 1.** Percent of New Cases of Ocular Melanoma by Age Group, Ohio, 2018-2022

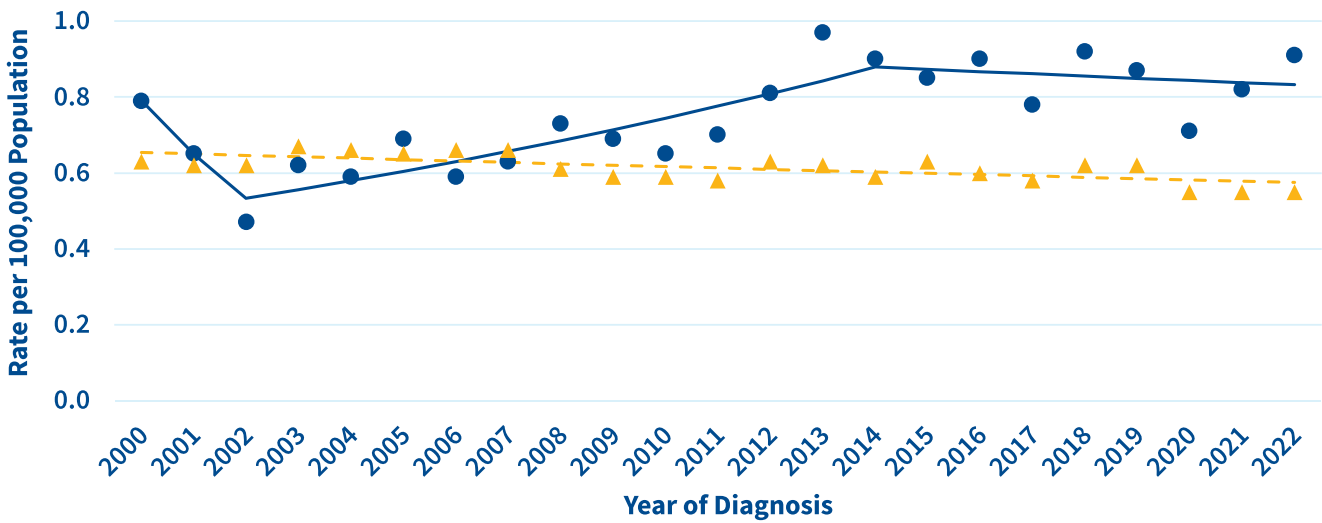


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025.

## Trends

Ohio’s OM incidence rates trended upward from 2002 to 2014, then remained relatively stable through 2022. Nationally, OM rates decreased by an average of 0.6% per year from 2000 to 2022 (Figure 2).

**Figure 2.** Trends in Age-Adjusted Incidence Rates of Ocular Melanoma per 100,000 Population by Sex, Ohio and the United States, 2000-2022



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025. Surveillance, Epidemiology, and End Results (SEER) Program. SEER 21 registries, National Cancer Institute, 2025.

Modeled trend lines were calculated using [Joinpoint Trend Analysis Software](#), National Cancer Institute, 2025.

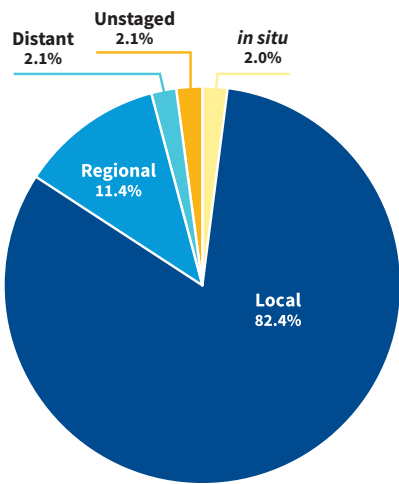
- Ohio Rate
- Ohio Modeled Rate
- ▲ U.S. Rate
- - - U.S. Modeled Rate

## Stage at Diagnosis

Cancer stage at diagnosis refers to the extent or spread of a cancer in the body and is an important determinant of survival. If cancer cells are present only in the layer of cells (tissue) where they developed and have not spread, the stage is *in situ*. If cancer cells have penetrated beyond the original layer of tissue, the cancer has become invasive and is categorized as local, regional, or distant based on the extent of spread.

In Ohio, 2.0% of ocular melanoma cases were *in situ*, 82.4% were diagnosed at a local stage, 11.4% were regional stage, 2.1% were distant stage, and 2.1% were unstaged or of unknown stage from 2018 to 2022 (Figure 3).

**Figure 3.** Proportion of Ocular Melanoma Cases (%) by Stage at Diagnosis, Ohio, 2018-2022



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025.

## Survival

Relative survival is the percentage of people who are alive at a designated time period (usually five years) after a diagnosis divided by the percentage expected to be alive in the absence of a diagnosis based on normal life expectancy.

The overall five-year relative survival for OM in Ohio was 85%, compared with 84% nationally (Table 2). Survival data for ocular melanoma cases in Ohio should be interpreted with caution due to small numbers.

**Table 2.** Five-Year Relative Survival (%) for Ocular Melanoma by Stage at Diagnosis, Ohio and the United States, 2015-2021

	All Stages	Local	Regional	Distant
Ohio	85%	90%	55%	*
U.S. (SEER)	84%	88%	65%	19%

Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025; Surveillance, Epidemiology, and End Results (SEER) Program, SEER 21 registries, National Cancer Institute, 2025.

\* The statistic could not be calculated due to small numbers.

# Types of Ocular Melanoma

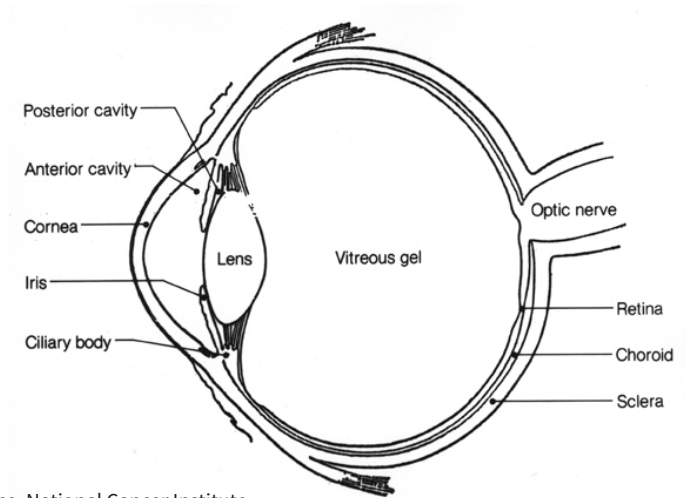
Types of OM include uveal melanoma, conjunctival melanoma, and other OM in other parts of the eye such as overlapping and unspecified ocular subsites.

The uvea is the middle layer of the wall of the eye and has three main parts:

- Choroid** – the tissue layer filled with blood vessels between the sclera and the retina.
- Ciliary body** – the ring of muscle tissue that changes the size of the pupil and the shape of the lens.
- Iris** – the colored part of the eye. (Figure 4).

The conjunctiva (not labeled) is the membrane that lines the inner surface of the eyelid and also covers the front part of the eye.

Figure 4. Parts of the Eye



Source: National Cancer Institute.

Uveal melanoma is the most common type of OM (90.3% of cases) and includes choroidal melanoma (75.2%) and iris and ciliary body melanoma (15.2%), based on invasive OM cases in Ohio from 2018 to 2022. Conjunctival melanoma is less common (7.3%) (Table 3).

Table 3. Average Annual Number and Proportion (%) of OM Cases by Type, Ohio, 2018-2022

Type (Site Code)	Cases	Percent
Uveal melanoma (C69.3, C69.4)	108	90.3%
Choroidal melanoma (C69.3)	90	75.2%
Iris and ciliary body melanoma (C69.4)	18	15.2%
Conjunctival melanoma (C69.0)	9	7.3%
Other ocular melanoma	3	2.3%

Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025.

## Risk Factors

Anything that increases the chance of getting a disease is called a risk factor. Having one or more risk factors does not mean that a person will develop the disease. Below are some of the risk factors for ocular melanoma.

- Having a fair complexion, which includes:
  - Fair skin that freckles and burns easily, does not tan, or tans poorly.
  - Blue, green, or other light-colored eyes.
- Older age.
- White race.

## Signs and Symptoms

---

OM may not cause early signs or symptoms. It is sometimes found during a regular eye exam when the doctor dilates the pupil and looks into the eye. Some symptoms include:

- Blurred vision or other changes in vision.
- Floaters (spots that drift in your field of vision) or flashes of light.
- A dark spot on the iris.
- A change in the size or shape of the pupil.
- A change in the position of the eyeball in the eye socket.

It is possible that one or more of these signs and symptoms may be the result of other health problems. If you have any of these symptoms, you should consult with your healthcare provider.

## Early Detection

---

Tests that examine the eye are used to help detect and diagnose OM. These may include:

- Eye exam with dilated pupil, including the following types:
  - Ophthalmoscopy: An exam of the inside of the back of the eye using a small magnifying lens and a light.
  - Slit-lamp biomicroscopy: An exam of the inside of the eye using a strong beam of light and a microscope.
  - Gonioscopy: An exam of the front part of the eye between the cornea and iris to check for blockages.
- Ultrasound exam of the eye: An imaging test that creates a picture of the inside of the eye called a sonogram.
- High-resolution ultrasound biomicroscopy: An imaging test that takes a more detailed picture of the eye than a regular ultrasound.
- Transillumination of the globe and iris: An exam of the iris, cornea, lens, and ciliary body with a light placed on either the upper or lower lid.
- Fluorescein angiography: A procedure to look at blood vessels and the flow of blood inside the eye using an orange, fluorescent dye.
- Indocyanine green angiography: A procedure to look at blood vessels in the choroid layer using a green dye.
- Ocular coherence tomography: An imaging test that uses light waves to take cross-section pictures of the eye.

Source for risk factors, signs and symptoms, and early detection: [Intraocular \(Uveal\) Melanoma Treatment - NCI](#), National Cancer Institute, 2025.

**Age-Adjusted Rate:** A summary rate that is a weighted average of age-specific rates, where the weights represent the age distribution of a standard population (direct adjustment). The incidence and mortality rates presented in this report were standardized to the age distribution of the 2000 U.S. Standard Population. Using the direct method, the population was first divided into 19 age groups, i.e., <1, 1-4, 5-9, 10-14, 15-19...85+, and the age-specific rate was calculated for each age group. Each age-specific rate was then multiplied by the standard population proportion for the respective age group.

**Average Annual Number:** The number of cases or deaths diagnosed per year, on average, for the time period of interest (e.g., 2018-2022). Average annual numbers are calculated by summing the number of cases or deaths for a given time period, dividing by the number of years that comprise the time period, and rounding to the nearest whole number.

**Incidence:** The number of cases diagnosed during a specified time period (e.g., 2018-2022). OM cases were defined by the International Classification of Diseases for Oncology, Third Edition (ICD-O-3), and categorized by site codes C690-C699 and histology codes 8720-8790 in accordance with the Surveillance, Epidemiology, and End Results (SEER) Program of the National Cancer Institute. U.S. OM incidence data were obtained from the SEER 21 areas (Nov. 2024 submission), calculated using SEER\*Stat software version 8.4.5.

**Invasive Cancer:** Cancer that has spread beyond the layer of tissue in which it developed and is growing into surrounding, healthy tissues. Invasive cancers consist of those diagnosed at the local, regional, distant, and unstaged/unknown stages. Only invasive cancers were included in the calculation of incidence rates in this document.

**Mortality:** The number of deaths during a specified time period (e.g., 2018-2022). Eye cancer deaths were defined as follows: International Statistical Classification of Diseases and Related Health Problems, Tenth Edition (ICD-10), code C69.

**Population Data:** Population estimates were provided by the National Cancer Institute's SEER Program. The 1990-2022 Ohio population estimates include 19 age groups and four expanded races by origin.

**Rate:** The number of cases or deaths per unit of population (e.g., per 100,000 population) during a specified time period (e.g., 2018-2022). Rates may be unstable and are not presented when the case count is less than five or the death count is less than 10.

**Relative Survival:** The percentage of people who are alive at a designated time period (usually five years) after a cancer diagnosis divided by the percentage expected to be alive in the absence of cancer based on normal life expectancy.

**Stage at Diagnosis:** The degree to which a tumor has spread from its site of origin at the time of diagnosis. A system of summary staging is often used to group cases into the following stages:

- **In situ** – Noninvasive cancer that has not penetrated surrounding tissue.
- **Local** – A malignant tumor confined entirely to the organ of origin.
- **Regional** – A malignant tumor that has extended beyond the organ of origin directly into surrounding organs or tissues or into regional lymph nodes.
- **Distant** – A malignant tumor that has spread to parts of the body (distant organs, tissues, and/or lymph nodes) remote from the primary tumor.
- **Unstaged/Unknown** – Insufficient information is available to determine the stage or extent of the disease at diagnosis.

## Sources of Data and Additional Information

---

**Ohio Cancer Incidence Surveillance System**  
[Ohio Cancer Incidence Surveillance System \(OCISS\)](#)

**National Cancer Institute**  
[Intraocular \(Eye\) Melanoma](#)

**American Cancer Society**  
[Eye Cancer \(Ocular Melanoma\)](#)

**To address comments and information requests:**

**Ohio Cancer Incidence Surveillance System (OCISS)**

**Ohio Department of Health**

246 North High Street  
Columbus, OH 43215

**Phone:** (614) 752-2689

**E-mail:** [ociss@odh.ohio.gov](mailto:ociss@odh.ohio.gov)

### Acknowledgments

**Ohio Department of Health**

Holly L. Sobotka, MS

John Kollman, MS

Sincere appreciation to the OCISS, cancer registrars, medical records technicians, and other health professionals who improve the collection and quality of cancer data in Ohio.

### Suggested Citation

Ocular Melanoma in Ohio. Ohio Cancer Incidence Surveillance System, Ohio Department of Health, Sept. 2025.

This report is public information. Reproduction and copying of this report for cancer prevention and control, education, and program planning are greatly encouraged. Citation of source is appreciated.

OCISS is supported in part by the State of Ohio and the National Program of Cancer Registries (NPCR) at the Centers for Disease Control and Prevention (CDC) through cooperative agreement number NU58DP007097. The contents are the sole responsibility of the authors and do not necessarily represent the official views of the CDC.