

Cataracts after Treatment for Childhood Cancer

Childhood cancer treatment sometimes requires the use of medications or radiation that can increase the risk of developing cataracts. Because vision can have a significant impact on daily living, it is important for survivors who received these treatments to have their eyes checked regularly.

What is a cataract?

A cataract is clouding of the normally clear lens of the eye. Cataracts often develop slowly, but as the clouding increases, vision can be affected.

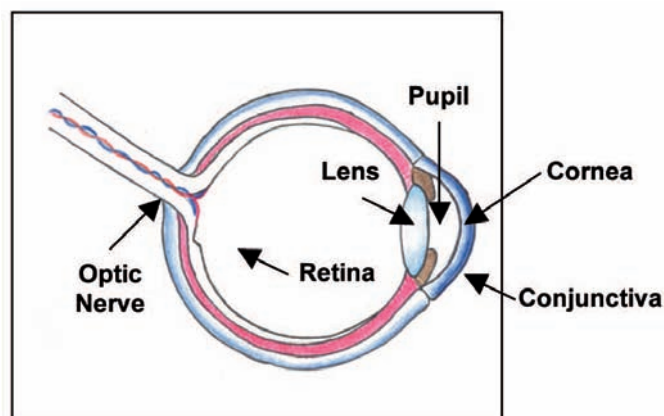
How does a cataract affect vision?

The eyes are remarkable organs, allowing light to be converted into impulses that are transmitted to the brain, where images are perceived. Light enters the eye through a clear layer of tissue known as the **cornea**. The cornea bends and focuses the light, and sends it through the opening of the eye known as the **pupil**. The pupil controls how much light enters the eye. Behind the pupil is the **lens** of the eye, which focuses the light onto the **retina**, the membrane along the back wall of the eye. The nerve cells in the retina change the light into electrical impulses and send them through the **optic nerve** to the brain, where the image is perceived. When the **lens becomes cloudy due to a cataract**, the image delivered to the retina becomes blurry.

What are the symptoms of a cataract?

Common symptoms of cataracts include:

- Painless blurring of vision
- Sensitivity to light and glare
- Double vision in one eye
- Poor night vision
- Fading or yellowing of colors
- The need for frequent changes in prescriptions for glasses or contact lenses



What cancer therapies increase the risk of developing cataracts?

- Certain medications, including:
 - **Busulfan**
 - **Corticosteroids**, such as prednisone and dexamethasone

- **Radiation therapy** to the following areas:
 - Eye and surrounding tissue (orbits)
 - Head or brain (cranial)
 - Total body irradiation (TBI)
- **The risk for cataracts increases** with:
 - Higher radiation doses
 - Frequent exposure to sunlight
 - The passage of time (the longer off therapy the survivor is)

What monitoring is recommended?

- Have an eye examination every year during your regular check-up
- See an eye specialist (ophthalmologist or optometrist) for a full eye evaluation:

Every year if you had:

- TBI
- High doses (30 Gy or 3000 cGy/rads or higher) of radiation to the head, brain or eyes
- A tumor involving the eye

Every 3 years if you had:

- Lower doses of radiation

How are cataracts treated?

Not all cataracts need treatment. In many cases, an ophthalmologist may monitor the vision closely over many years, and will recommend treatment if and when it becomes necessary. The only treatment for cataracts is surgical removal of the lens and replacement with an artificial lens. Today, cataract surgery is a low-risk procedure that is performed on an outpatient basis and usually is successful in restoring vision.

How can I keep my eyes as healthy as possible?

- Wear sunglasses with UV protection when in bright sunlight.
- When participating in sports, be sure to select protective eyewear that is appropriate for the sport. Eyewear worn for sports should be properly fitted by an eye care professional.
- Avoid toys with sharp, protruding or projectile parts.
- Never play with fireworks or sparklers of any kind to avoid accidental injury.

- Be careful when working with hazardous household chemicals.
- Wear protective eyewear when using a lawnmower, power trimmer, or edger, and when working with dangerous equipment in the workshop.
- If you do experience an eye injury, seek medical attention promptly.

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Additional health information for childhood cancer survivors is available at
www.survivorshipguidelines.org

Note: Throughout this *Health Links* series, the term "childhood cancer" is used to designate pediatric cancers that may occur during childhood, adolescence, or young adulthood. *Health Links* are designed to provide health information for survivors of pediatric cancer, regardless of whether the cancer occurred during childhood, adolescence, or young adulthood.

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