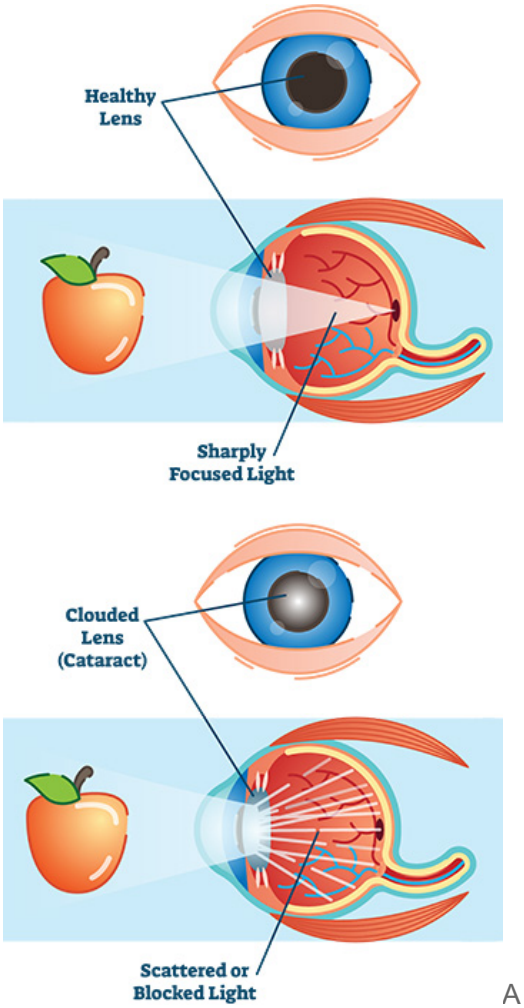
Cataract

Cataract Surgery
Cataract FAQs



A **cataract** is a cloudy or opaque area in the normally clear lens of the eye. Depending upon its size and location, it can interfere with normal vision. Most cataracts develop in people over age 55, but they occasionally occur in infants and young children. Usually cataracts develop in both eyes, but one may be worse than the other.

The lens is located inside the eye behind the iris, the colored part of the eye. Normally, the lens focuses light on the retina, which sends the image through the optic nerve to the brain.

However, if the lens is clouded by a cataract, light is scattered so the lens can no longer focus it properly, causing vision problems. The lens is made of mostly proteins and water. Clouding of the lens occurs due to changes in the proteins and lens fibers.

Cataracts generally form very slowly. Signs and symptoms of a cataract may include:

- Blurred or hazy vision

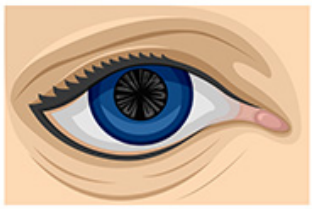
- Reduced intensity of colors
- Increased sensitivity to glare from lights, particularly when driving at night
- Increased difficulty seeing at night
- Change in the eye's refractive error

There is no treatment to prevent or slow cataract progression. In age-related cataracts, changes in vision can be very gradual. Some people may not initially recognize the visual changes. However, as cataracts worsen, vision symptoms increase.

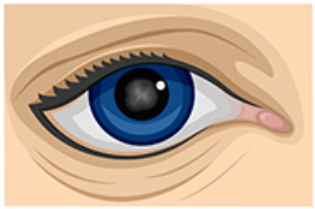
Types of Cataracts

The lens is composed of layers, like an onion. The outermost is the capsule. The layer inside the capsule is the cortex, and the innermost layer is the nucleus. A cataract may develop in any of these areas. Cataracts are named for their location in the lens:

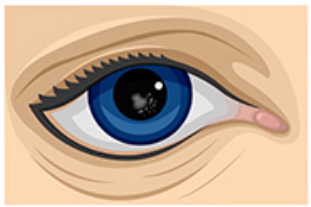
- **A nuclear cataract** is located in the center of the lens. The nucleus tends to darken, changing from clear to yellow and sometimes brown.
- **A cortical cataract** affects the layer of the lens surrounding the nucleus. The cataract looks like a wedge or a spoke.
- **A posterior capsular cataract** is found in the back outer layer of the lens. This type often develops more rapidly.



Cortical cataract



Nuclear cataract



Posterior capsular cataract

What Causes Cataracts?

Most cataracts are due to age-related changes in the lens of the eye that cause it to become cloudy or opaque. However, other factors can contribute to cataract development, including:

- **Diabetes mellitus.** People with diabetes are at higher risk for cataracts.
- **Drugs.** Certain medications are associated with cataract development. These include:
  - Corticosteroids
  - Chlorpromazine and other phenothiazine-related medications
- **Ultraviolet radiation.** Studies show an increased chance of cataract formation with unprotected exposure to ultraviolet (UV) radiation.
- **Smoking.** There is possibly an association between smoking and increased lens cloudiness.
- **Alcohol.** Several studies show increased cataract formation in patients with higher alcohol consumption compared with people who have lower or no alcohol consumption.

- **Nutritional deficiency.** Although the results are inconclusive, studies suggest an association between cataract formation and low levels of antioxidants (for example, vitamin C, vitamin E and carotenoids). Further studies may show that antioxidants can help decrease cataract development.

Rarely, cataracts are present at birth or develop shortly after. They may be inherited or develop due to an infection (such as rubella) in the mother during pregnancy. A cataract may also develop following an eye injury or surgery for another eye problem, such as glaucoma.

While there are no clinically proven approaches to preventing cataracts, simple preventive strategies include:

- Reducing exposure to sunlight through UV-blocking lenses
- Decreasing or stopping smoking
- Increasing antioxidant vitamin consumption by eating more leafy green vegetables and taking nutritional supplements

How Is a Cataract Diagnosed?

Cataracts can be diagnosed through a comprehensive eye examination. This examination may include:

1. **Patient history** to determine if vision difficulties are limiting daily activities and other general health concerns affecting vision.
2. **Visual acuity measurement** to determine to what extent a cataract may be limiting clear distance and near vision.
3. **Refraction** to determine the need for changes in an eyeglass or contact lens prescription.
4. **Evaluation of the lens** under high magnification and illumination to determine the extent and location of any cataracts.
5. **Evaluation of the retina of the eye** through a dilated pupil.
6. **Measurement of pressure** within the eye.
7. **Supplemental testing** for color vision and glare sensitivity.

Further testing may be needed to determine how much the cataract is affecting vision and to evaluate whether other eye diseases may limit vision following cataract surgery.
Using the information from these tests, your optometrist can determine if you have cataracts and advise you on your treatment options.

How Is a Cataract Treated?

Cataract treatment is based on the level of visual impairment they cause. If a cataract minimally affects vision, or not at all, no treatment may be needed. Patients may be advised to monitor for increased visual symptoms and follow a regular check-up schedule.

In some cases, changing the eyeglass prescription may provide temporary vision improvement. In addition, anti-glare coatings on eyeglass lenses can help reduce glare for night driving, and increasing the amount of light used when reading may be beneficial.

When a cataract progresses to the point that it affects a person's ability to do normal everyday tasks, surgery may be needed. Cataract surgery involves removing the lens of the eye and replacing it with an artificial lens. The artificial lens requires no care and can significantly improve vision. Some artificial lenses have the natural focusing ability of a young healthy lens.

Two approaches to cataract surgery are generally used:

- **Small-incision cataract surgery** involves making an incision in the side of the cornea (the clear outer covering of the eye) and inserting a tiny probe into the eye. The probe emits ultrasound waves that soften and break up the lens so it can be suctioned out. This process is called phacoemulsification.
- **Extracapsular surgery** requires a somewhat larger incision in the cornea so that the lens core can be removed in one piece. The natural lens is replaced by a clear plastic lens called an intraocular lens (IOL). When implanting an IOL is not possible because of other eye problems, contact lenses and, in some cases, eyeglasses may be an option for vision correction.

As with any surgery, cataract surgery has risks from infection and bleeding. Cataract surgery also slightly increases the risk of retinal detachment. It is important to discuss the benefits and risks of cataract surgery with your eye care providers. Other eye conditions may increase the need for cataract surgery or prevent a person from being a cataract surgery candidate.

Cataract surgery is one of the safest and most effective types of surgery performed in the United States today. Approximately 90 percent of cataract surgery patients report better vision following the surgery.

The Importance of Nutrition

Researchers have linked eye-friendly nutrients such as lutein and zeaxanthin, vitamin C, vitamin E and zinc to reducing the risk of certain eye diseases, including cataracts. For more information on the importance of good nutrition and eye health, please see the diet and nutrition section.