

Cataracts

Cataracts: what are they?

A cataract is a clouding of the normally clear lens of your eye. Most cataracts are related to ageing and therefore are very common in older people. The density of a cataract can range from a mild clouding that isn't noticed at all to a visually blinding opaque lens. It is normal to see a small degree of cataract in most eyes over the age of 60.

When the vision impairment caused by the cataract begins to inconvenience your normal lifestyle, you may need cataract removal surgery. The surgery is in most cases a safe and effective procedure.

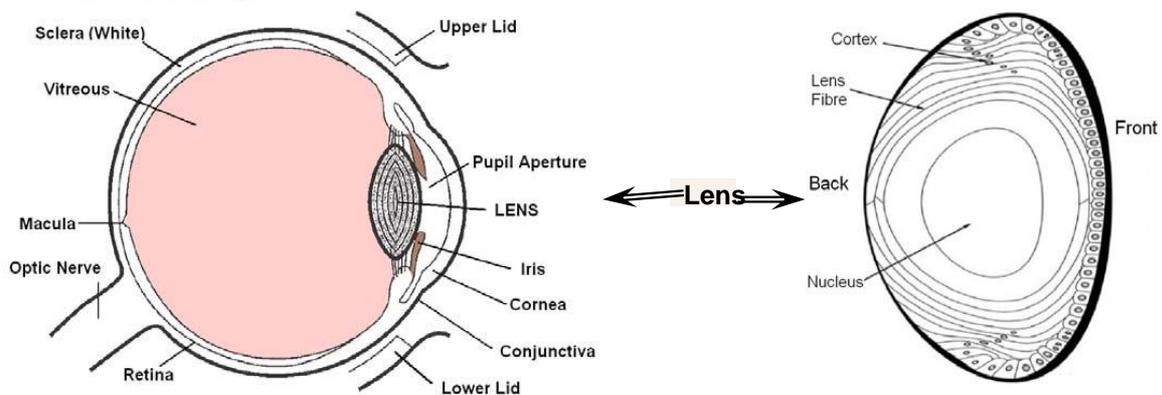


The crystalline lens

The crystalline lens of the eye is a natural lens which produces one third of the eye's total optical power and focuses light into an image on the retina (the light-sensitive tissue at the back of the eye).

The crystalline lens is elastic which allows it to flex in order to change its shape. The act of changing shape causes the lens to change power in order to focus on objects at close range. At birth, the lens contains elongated cells which resemble fibres. They are completely transparent due to their highly ordered arrangement and along with other protein and chemical processes this keeps the lens transparent. With age, additional fibres are added to the outside, wrapping around the inner portion of the lens (the nucleus). The outer portion of the lens is termed the cortex. This structure is similar to the layers of an onion.

Cross section of the human eye



A sharp, clear image is formed on the retina when light passes through the normally transparent lens. However, if the lens is cloudy from a cataract, a blurry or hazy image is formed on the retina.

Ageing and cataract

The lens is suspended in the eye and surrounded by fluid which provides nutrients and also carries away waste products. However, as the lens grows larger, the nucleus of the lens has greater difficulty accessing this fluid. As the lens constantly receives UV damage and oxidative stress, the ageing lens can no longer maintain the chemical processes which keep the lens clear. As a result, the lens starts to become cloudy.

If you are over the age of 60 and have recently been diagnosed as having a cataract, there is no need to worry. Age-related cataract develops slowly over many months. Not all cataracts need surgery, but when the cataract eventually interferes with your vision and consequently your lifestyle, you may need to begin considering surgery.

Different types of cataracts

Although most cataracts are related to ageing, other less common types of cataracts exist: *Secondary cataract*: Resulting from other eye conditions such as chronic uveitis or glaucoma.

Metabolic cataract: Resulting from other health conditions such as diabetes or galactosemia.

Traumatic cataract: Development of a cataract after a physical eye injury.

Toxic cataract: Side-effects from the long-term use of drugs or medications such as steroids or amiodarone.

Congenital cataract: Some babies are born with cataracts. These cataracts may be so small that they do not affect vision, however if they do, the cataracts may need to be removed promptly to prevent other eye problems such as amblyopia or high myopia.

Symptoms of cataracts

The symptoms experienced by those with cataract are highly dependent of the location and the severity of the cataract and you may not even be aware that a cataract is developing. They include:

Blurring of Vision: You may notice a 'film' or a 'haze' in your everyday vision. Often, things that used to look black and white now look grey and colours are perceived as dull. You may notice difficulty with reading and that the television isn't perfectly clear.

Veiling Glare: Light tends to be scattered by the cataract causing difficulty with bright lights (such as headlights while driving at night).

Change of Optical Prescription: The proteins inside the lens may condense in a cataract causing the power of the lens to change considerably, which can cause a change in optical prescription. New spectacles may improve vision in the early stages of cataracts; however, spectacles often will not provide any significant improvement as the cataract worsens.

Double Vision when viewing with just one eye: This is due to two or more clear portions of the lens letting images through to the retina causing the perception of two

images. Uncorrected astigmatism may also cause this phenomenon There are several common misconceptions about cataract.

- It is NOT a film visible on the outside of the eye.
- It is NOT caused from over-use of the eyes.
- It generally does NOT cause irritation or pain.

Who is at risk for cataract?

You may be more likely to develop cataracts if you are:

- suffering from certain diseases such as diabetes
- a cigarette smoker
- frequently exposed to sunlight

How can I protect my eyes from cataracts?

Wearing sunglasses and a hat to block UV sunlight may help to slow down the progression of cataract. Try to stop smoking if you are a smoker. Some researchers recommend consuming green leafy vegetables, fruit and other foods with antioxidants. If you are age 60 or older, you should have a comprehensive eye exam with an optometrist at least

every one or two years. In addition to cataract, your optometrist can check for signs of age-related macular degeneration, glaucoma, and other eye conditions. Early treatment for many eye diseases may save your sight.

Consultation with your optometrist

Your optometrist will perform the necessary tests, which may include the use of pupil dilating eye drops, to fully investigate the cataract. Due to the slow progressing nature of cataracts, your optometrist may initially decide to monitor your eye over a period of time to determine the speed of progression and also to assess if you fall below any visual standards (e.g. for driving). Regular eye examinations will help your optometrist decide when to refer you to an ophthalmologist (eye doctor) who may then decide that you will benefit from having your cataracts removed. Your overall health and any other coexisting eye conditions you may have will also be considered before a decision is made.

Can Cataracts be treated?

Usually, the answer is yes and most people with cataracts will benefit from treatment.

The treatment involves a surgical procedure to remove the cataract (the cloudy lens), replacing it with an artificial lens (intra-ocular lens). Micro incisional surgery under local anaesthetic is the normal surgery of choice, it is usually painless and you may return home later on the same day. This artificial lens which replaces the cataract can be of any power and can be used to correct any previous optical prescriptions as well (such as shortsightedness, long-sightedness and astigmatism).



Public health eye care information is provided courtesy of the New Zealand Association of Optometrists (nzao.co.nz). Please note that this information is for general guidance only; for proper testing, diagnosis, and treatment make an appointment with your optometrist at mbo.co.nz