




Your vision | Your world

See more without  
your glasses

**RayOne Trifocal**



 Rayner



The **happiest** patients are those who feel informed of their options.

## Sight is one of life's most precious gifts

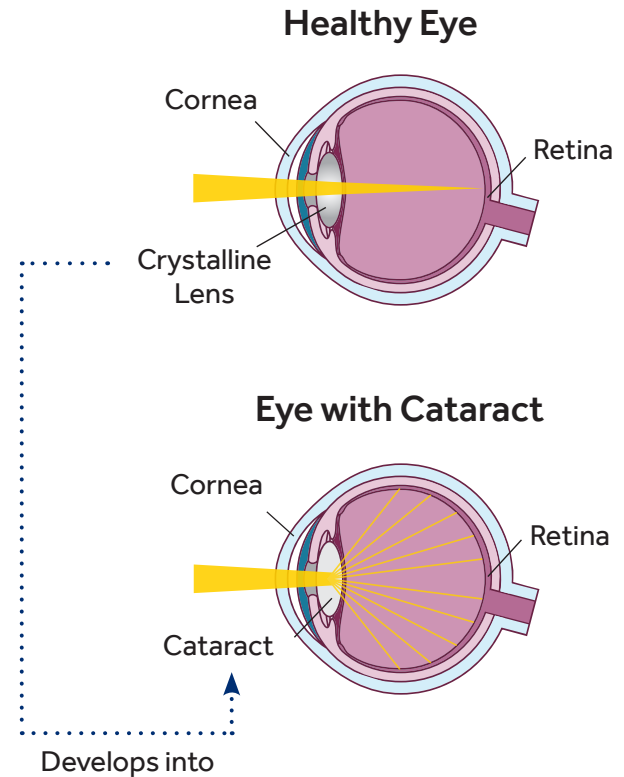
It's only natural that the quality of our vision decreases with age. Presbyopia is one of the most common eye problems, and many of us will resort to glasses for everyday tasks. Eventually, we may also develop cataracts which further decrease our quality of vision and increase our reliance on glasses.

Although the diagnosis of a cataract may not be welcome news, it is actually an opportunity to reduce the need for glasses and permanently improve your vision.

# What are cataracts?

Cataracts occur when the natural lens in your eye becomes cloudy or loses its transparency, from the introduction of natural proteins that build up over time. Your vision becomes blurry, hazy or less colourful with a cataract. A common indication of when a cataract has developed is when your vision isn't as clear or bright as it used to be.

- Cataracts are very common; they mostly develop naturally with age.
- Globally, cataracts are one of the leading causes of vision impairment, with over 94 million people affected.<sup>1</sup>
- Cataract surgery is a common, safe, and effective procedure to restore your vision.<sup>2</sup>
- There are more than 28 million cataract surgeries performed worldwide each year.<sup>3</sup>



Over **80%** of people over 60 years old develop cataracts.<sup>4</sup>

## What is presbyopia?

Presbyopia is a natural occurrence that develops as you age. You gradually find it hard to focus on objects close to you, making tasks like reading small print, using a mobile phone, or working on the computer difficult. It is not a disease or illness; it usually affects everyone during the natural ageing process, and we resort to wearing glasses to improve our vision for these up-close tasks.

As the eye gets older, gradual changes to the natural crystalline lens inside the eye means that it loses some of its flexibility and therefore the muscles that control the lens shape are working extremely hard. At a certain age, this will mean that to help the eye focus on near objects, additional power is required.

## How are cataracts treated?

The only way to remove a cataract is through surgery. The eye remains in its natural position and the cataract is removed via a surgical method called phacoemulsification and replaced with a tiny, acrylic intraocular lens (IOL).

# What is RayOne Trifocal?

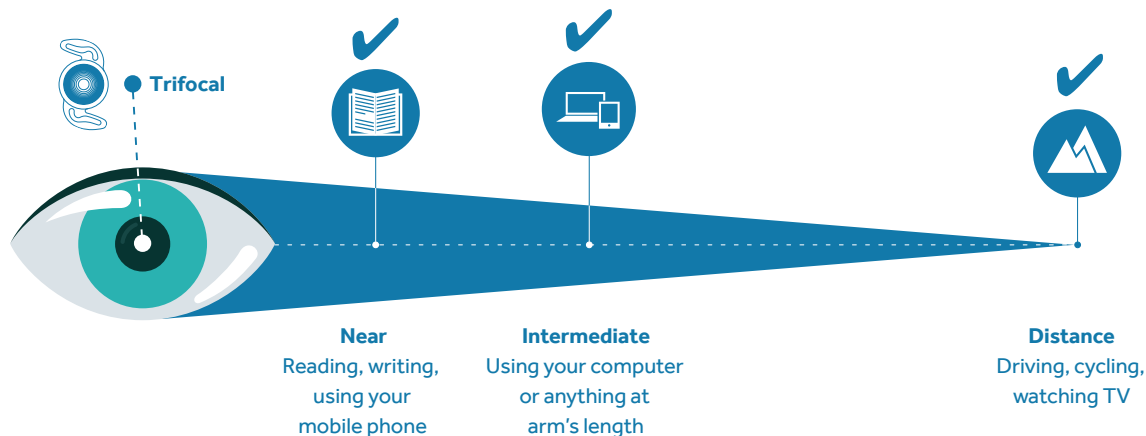
Instead of a monofocal intraocular lens (IOL), which typically only restores your distance vision, you can choose to have a trifocal solution that gives you the opportunity to increase your independence from wearing glasses for the majority of everyday activities requiring near, intermediate and distance vision.

Rayner's RayOne Trifocal is one of the most advanced intraocular lenses available today, using patented optics that give you the opportunity to increase your independence from wearing glasses.

RayOne Trifocal uses diffractive step technology made up of 16 rings that split the incoming light to provide near, intermediate and distance vision.

Trifocal lenses allow you to have **excellent** vision at all distances and be free from wearing your glasses.

The advanced optics transmit 89% of available light to the retina. Not everyone is suitable for a trifocal lens and your surgeon will assess your suitability based on your eye health, personality and lifestyle.



## What can I see clearly with a trifocal lens?



Expected vision before cataract surgery



No glasses needed after cataract surgery

With a trifocal lens implanted you will have clear vision for distance, intermediate and near activities. You will experience lower contrast than that provided by a monofocal IOL, as well as some visual disturbances that reduce over time.

## Also need astigmatism correction?

If you have some astigmatism in your eye then your surgeon may be able to correct this at the same time as providing you with glasses-free vision. RayOne Trifocal Toric is an IOL that combines the advanced optics that allow you to see clearly at all distances with a special surface design to overcome the effect of your astigmatism.

## What is astigmatism?

Astigmatism is an imperfection in the curvature of the cornea resulting in distorted or blurred vision at all distances. The condition is very common and occurs when the shape of the cornea is not spherical or regular. Simply, the curvature of the cornea can be described as the curvature of a rugby ball (or American football) which is varied over the surface instead of having a constant radius like the curve of a football.

If the corneal curvature is irregular, the light entering the eye is not correctly received by the retina, causing blurred and distorted vision, regardless of the distance at which the objects are located<sup>5</sup>.

There are more than **28 million** cataract surgeries performed worldwide each year

Side effects and complications to cataract surgery are rare. Some of the visual compromises that have been associated with the implantation of trifocal intraocular lenses are:

- Lower contrast than that provided by a monofocal IOL
- Halos and glare when driving at night
- Visual disturbances including halos and glares, which decrease with time (neuroadaptation).

As with all surgical procedures, the outcomes for a trifocal intraocular lens cannot be guaranteed. It is important to be aware of possible effects on vision after surgery. Please discuss possible risks and side effects with your eye surgeon. Not all patients are suitable for this type of intraocular lens. Your surgeon at the time of consultation will indicate whether this type of lens is suitable for you.

## How can I give feedback about my cataract surgery?

Before surgery, your surgeon may ask for your email address and consent to register you on an online system called RayPRO that is used to gather feedback on your satisfaction, visual outcomes, and any eye procedures performed after your cataract surgery.

You will be emailed five short questionnaires over three years which will confidentially collect your feedback and present it to your surgeon anonymously - no one will be able to see your individual answers. Your surgeon and Rayner (the intraocular lens manufacturer) will have access to aggregated data for the purpose of improving future products and services. If you have any questions about RayPRO, please speak to your surgeon or clinic team.

Rayner is a British company that is focused on providing the best visual outcomes for patients since 1910.



Learn more at [www.yourvisionyourworld.com](http://www.yourvisionyourworld.com)



**Published by Rayner**

©2022 Rayner, all rights reserved. Rayner, RayOne and RayPRO are proprietary marks of Rayner. Rayner Intraocular Lenses Limited, 10 Dominion Way, Worthing, West Sussex, BN14 8AQ. Registered in England: 615539. EC 2022-84 04/22

Clinic details:

**References**

1. <https://www.who.int/news-room/fact-sheets/detail/blindness-and-visual-impairment>
2. Cataract Surgery. National Eye Institute, May 2019
3. Market Scope IOL Report, 2021
4. <https://www.nature.com/articles/s41433-020-0806-3>
5. <https://www.aao.org/eye-health/diseases/what-is-astigmatism>

As with all surgical procedures, there are risks as well as benefits. The outcomes for an intraocular lens cannot be guaranteed and it is important to be aware of possible effects on vision after surgery. Nothing contained within this document is intended to offer medical advice for the treatment of any illness or disease, nor is it a substitute for professional medical advice, diagnosis or treatment. Please discuss possible risks and side effects with your eye surgeon who will also advise whether this product is suitable for your condition. RayOne Trifocal and RayOne Trifocal Toric intraocular lenses are for placement in the capsular bag.