

Trifocal lenses for cataracts

An improved lens implant is revolutionising the treatment of cataracts by offering effective near, intermediate and distance vision.



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Implantation of an intraocular lens (IOL) after surgical removal of cataract via phacoemulsification surgery is the standard of care for cataracts, an age-related condition that results in clouding of the eye's natural lens.

Although patients implanted with monofocal IOLs can see distant objects clearly, they usually require corrective spectacles for intermediate and near distances.

The goal of multifocal IOLs was to provide clear and comfortable vision to patients at all viewing distances, which is often difficult to achieve. Vision at near distance has been generally reported to be satisfactory, but intermediate vision was often problematic.

Intermediate vision has become an increasing concern for patients as a result of the proliferation of handheld devices and the increasing use of computers and tablets in daily life. This means that many patients who had traditional diffractive multifocal artificial lenses inserted into their eyes found they had good near vision and can see far away, but their middle-distance vision — for instance, when they looked at a computer screen — was blurry. Many still had to use glasses and contact lenses to fill this gap. In addition, traditional multifocal lenses cause too much glare for many patients.

Enter the trifocal implant.

Besides providing clear distance and near vision, this new type of IOL also offers sharp intermediate vision, all with minimal glare and haloes at night. The trifocal IOLs were designed such that the dioptric power of the near focal point was twice the dioptric power of the intermediate focal point.

Who is right for a trifocal lens?

To get the best from a trifocal lens, the eye must have the potential to see very well. The surface of the eye needs to be healthy, so patients with dry eye aren't good candidates.

The lens needs to be placed securely without tilting, so if there are conditions that could lead to tilting, then this is not a good option. Also, the back of the eye, particularly the macula, needs to be healthy.

If none of these anatomical conditions can be fulfilled, the patient is better off without a trifocal lens and should opt for the alternative monofocal lens. In addition, the patient's lifestyle and expectations have to be taken into account. Although the trifocal lens minimises glare and haloes in the day, these can still occur at night, a problem for patients who need to drive then. Similarly, if a patient is particular about clarity of vision or not wanting to have any imperfections in night vision, the trifocal lens will not be suitable.

In essence, the various multifocal or trifocal lenses differ slightly in the range at which the reading and intermediate distances are best. Choosing the right IOL thus requires a discussion with the ophthalmologist.

The trifocal lens gives a very good range of vision, the best chance of true spectacle independence, and keeps both eyes the same. It is one of the latest technologies available for cataract patients, and Dr Leo's clinic is one of the few places here that offers them. [🔗](#)

