

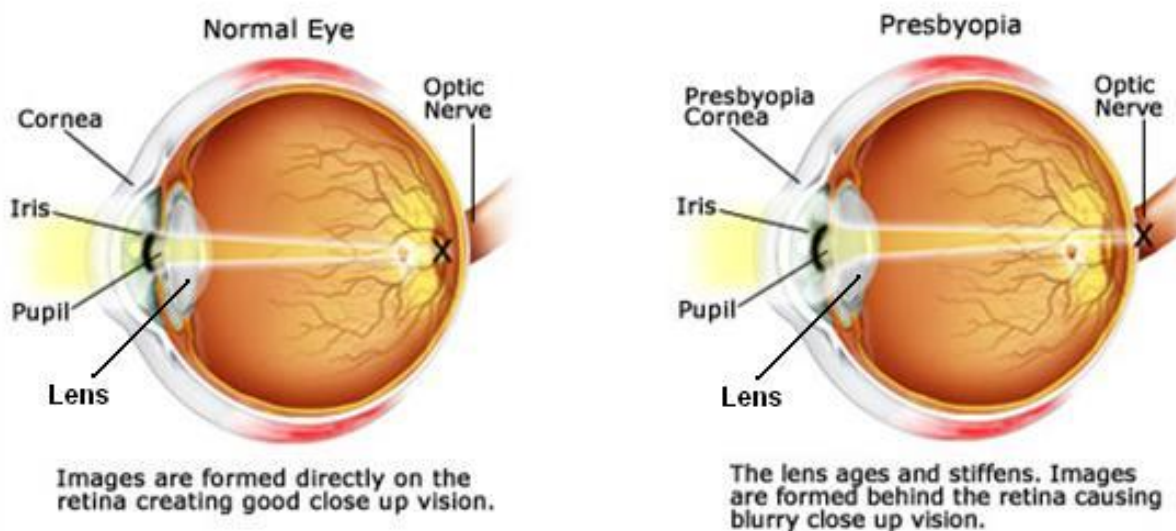


## PRELEX (PREsbyopic Lens Exchange)

### WHAT IS PRESBYOPIA?

Presbyopia is an ageing condition whereby the lens of the eye becomes increasingly inflexible as you mature. This typically starts at the age of 40 and can cause difficulty in focusing on objects both near and far. Traditionally, this means that reading glasses or a change to bifocals or multifocals are required for clear reading and computer vision.

The diagram below illustrates how the cornea and lens of the eye work together to focus light onto the back of the eye.



PRELEX offers a solution. PRELEX eliminates this gradual change in vision due to ageing.

### WHAT IS PRELEX?

PRELEX is a vision correction procedure whereby the natural lens in the eye is replaced with an artificial **multifocal intraocular lens**. PRELEX creates a new visual system inside the eye, one that can provide the focusing power to see near, intermediate and far images with minimal dependence on contact lenses or glasses.

At the Sydney Eye Clinic, we use the AT LISA tri – the latest generation of Zeiss multifocal intraocular lenses.

The [AT LISA tri](#), provides excellent functional vision, not only near and far, but also at [intermediate](#) distances such as when using a computer, preparing food or having a

conversation. You can enjoy good vision in all light conditions, even when driving at night or reading a menu in a dimly lit restaurant. This **trifocal IOL** from Carl Zeiss is the result of years of experience in the development of optical technology. It is designed to match your high expectations, giving you the best chance to live an active life without glasses. As with all multifocal IOLs, after implantation of the AT LISA tri you will need some time to adjust to the new visual images. Results\* have shown that in addition to excellent visual acuity, patient results after surgery with AT LISA tri show fast adaptation to this new optic design with lower levels of light side effects.

### **AM I SUITABLE FOR PRELEX?**

In order to determine whether or not you are suitable for PRELEX a thorough examination of your eyes by our medical team is required. This assessment includes, among other things, a variety of tests, counselling and a determination of your lifestyle, career goals and physical needs.

However, as a guide, you are likely to be suitable for PRELEX if you answer yes to one or more of the following questions:

1. Are you over 40 years old and wish to eliminate your dependence on multifocals, bifocals or reading glasses?
2. Are you showing signs of cataract development?
3. Does your lifestyle or career require you to have good vision without the use of prescription glasses or contact lenses?
4. Have you been advised that you may not be a suitable candidate for laser surgery, such as LASIK, PRK or ASL?

At the Sydney Eye Clinic, we will not offer PRELEX unless we think you are a suitable candidate.

## **NEUROADAPTATING: IMPROVING VISION BY ONESELF**

### **Neuroadaptation**

It is the process by which the brain modifies its sensory input in response to external stimuli. For example if one keeps poking oneself with a pin, after a few pricks the pain is not felt. If a person has knee joint pain and an irritant cream is rubbed on the skin, the joint point gets masked.

Visual Neuroadaptation is not a new phenomenon. A person who wears glasses for the first time, or tries progressive glasses has to neuroadapt to the different way image is presented to the brain. Neuroadaptation in the visual system can occur with monocular or binocular disturbance. The blurriness or other undesirable patterns are negated over time. If similar patterns are generated from both eyes, negation is faster. If the patterns are different but fusion is allowed, such inconvenient patterns can be obscured.

Psychophysics is the interaction of brain and optics phenomenon. It deals with the Binocular rivalry and visual crowding; two phenomenon at work helping to adapt to the Presbyopic implants.

Having a working plan and knowing about the timeline for adaptation, coupled with exercises, helps increase the assimilation of the new vision.

### **Visual exercises for aiding Neuroadaptation**

Occasionally the optimal results may take a few months after both eyes have had implants inserted. Performing certain visual tasks or exercises can hasten this process. These include watching TV, working on iPads, cell phones and learning to avoid looking at bright lights.

Modulating room light, adjusting distance between computer and oneself are all helpful. There is even computer based exercise to enhance neuroadaptation. It seems tedious but is very gratifying.

### **Adjusting to reading after PRELEX Surgery**

One of the reasons people desire PRELEX is because their hands are not long enough. As one grows more presbyopic one tries to hold books and newspapers away from their eyes. Once PRELEX is done, there is no need to do this. But people are creatures of habit. Though they have been cured and can read at normal distance, breaking the subconscious distance set by brain takes time. This is truer

when only one eye has been cured. An active conscious input is therefore required. The best way to achieve this is as follows. Hold a book in one hand and close the unoperated eye. This is to prevent the two eyes fighting each other. Move the book back and forth until it is clear. Stretch out the other hand. measure the distance at which the vision is most clear. That is, is it near the elbow, biceps or forearm? Memorise the spot and next time hold the book around there. Now open the unoperated eye.

### **Glare and haloes**

Initially the new implants may cause some glare and haloes. Please avoid searching for haloes. When driving at night refrain from looking at the oncoming headlights. It is better not to drive in the lane closest to opposing traffic. Though the taillights in the cars in front may appear bigger, don't stare at them. These side effects decrease as the eye heals and astigmatism and spherical imperfections are treated. They disappear in a few months as the brain adapts and subtracts the aberrations in the images. Hardly anyone notices them in a year from the procedure.

## **FREQUENTLY ASKED QUESTIONS**

### **1. How long does the PRELEX procedure take?**

You will spend approximately 2 hours at our day surgery centre but the entire PRELEX procedure typically takes only 30-45 minutes.

### **2. Can both eyes be treated on the same day?**

PRELEX is performed in our Day Surgery where both eyes can be operated on the same day.

### **3. Can I drive after the procedure?**

No. You will be required to make arrangements for a relative or friend to drive you home after the procedure.

### **4. Does the procedure hurt? Are there needles involved?**

No. Before the procedure, you will receive a pre-operative sedative and your pupil will be dilated with eye drops. An intravenous line will be started for additional sedation, if necessary. The eye is then anaesthetized with eye drops to ensure comfort during the procedure.

### **5. What happens in surgery?**

During the procedure, you will be positioned on a surgical bed under an operating microscope in a sterile operating room. Dr. Sebban will remove the natural lens from the eye using ultrasonic vibrations through a micro-incision of less than 2.5 mm. The natural lens is replaced by the foldable multifocal intraocular lens, which is inserted through the micro-incision. Once inside the eye, the lens unfolds as it is placed into permanent position. No sutures/stitches are required because the small incision is self-sealing.

### **6. What can I expect after the procedure?**

Following the procedure, eye drops and ointment will be given to you and our staff will discuss your post-operative instructions with you. After the procedure you will return home and rest for the remainder of the day. Although everyone heals differently, most patients see improvement in their vision almost immediately. You may experience mild discomfort, such as scratchiness, tearing or gritty sensation. This is normal and may last for a few days.

## **7. What side effects can I experience after the procedure?**

Following the procedure, it is likely that you will see haloes and experience glare around lights and illuminated objects, especially while driving at night. However, it is important to understand that with multifocal implants you are getting a new 'visual system', which will take some time for your brain to properly adjust. The adjustment period differs for each individual. For some, it can take a matter of weeks, while for others it may be months. Eventually, as you adapt to multifocal lenses, trees and buildings will lose their glow and haloes around street lights will become less noticeable.

## **8. When can I play sport again? Or wear make up?**

You should avoid rubbing or bumping your eye after surgery especially the first week following surgery. To reduce the risk of infection, general hygiene is utmost important. Stay away from animals, use single-use tissues instead of handkerchiefs, and avoid contact sports, swimming and eye make-up for at least 2 weeks. Typically, you will be able to resume activities like watching TV or reading immediately.

## **9. Will I be able to throw away my glasses?**

For the majority of people, yes. However, reading glasses with +1.00 magnification may be occasionally needed for intermediate vision (such as when working on the computer).

## **10. Can Astigmatism also be treated?**

For those patients who have some degree of corneal astigmatism requiring additional correction, relaxing incisions can be made in the surface of the cornea to reduce astigmatism at the same time the PRELEX procedure is performed. Astigmatism can also be fine tuned with laser treatment later on.

## **11. Do the results last?**

Most people notice an immediate improvement in their vision after PRELEX. Near, intermediate and distance vision will continue to improve during the 3-6 month period after the procedure and should become stable (and unlikely to change over time).

## **12. How frequent do I have to come back for check ups?**

Follow up appointments are required to monitor your progression the day after the procedure and thereafter at 1 week, 6 weeks and 4 months.

**13. Will I develop cataracts in the future?**

No. Cataract surgery will not be necessary later in life, as your natural lenses are replaced with artificial multifocal lenses.

**14. How much experience does the surgeon have?**

Dr. Sebban has helped over 20,000 people improve their vision through many forms of refractive surgery. He is also a highly experienced cataract surgeon, who has helped train Ophthalmologists in refractive eye surgery both in Australia and overseas.

**15. How long has the Sydney Eye Clinic been established?**

The Sydney Eye Clinic was first established in Brookvale at the Warringah Mall Medical Centre in 1996. Since then, our practice has grown to include Darlinghurst and other satellite clinics in Sydney's Western Suburbs.

**If you have any further questions or would like to know more about PRELEX, please contact us on 1300 128 114 or visit our website on [www.eye.net.au](http://www.eye.net.au)**