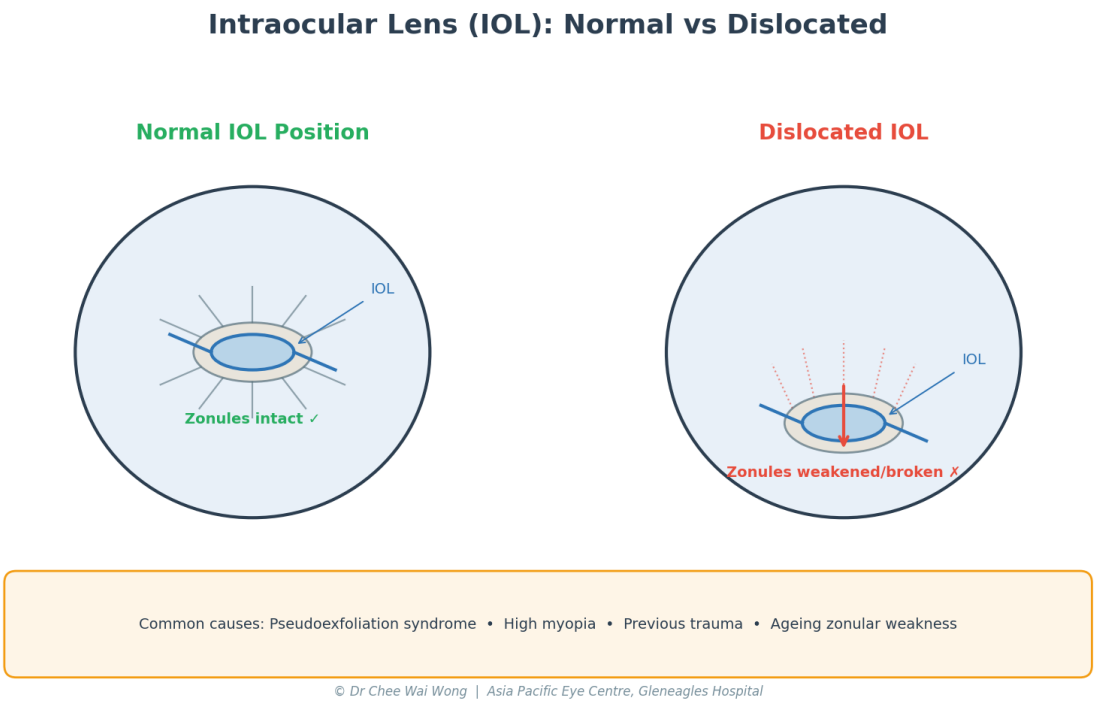
Dislocated Intraocular Lens: Causes, Symptoms & Surgery

By Dr Chee Wai Wong, Vitreoretinal Surgeon

If you have had cataract surgery, you may know that your cloudy natural lens was replaced with a clear, artificial one called an intraocular lens (IOL). For the vast majority of people, this lens sits comfortably and permanently in the eye, providing clear vision for life. But in a small number of cases, the lens can shift out of position. This condition, which we call a dislocated or subluxated intraocular lens, requires attention. When this happens, it can cause blurred vision, double vision, and other problems that typically require surgical correction.

How Does the Lens Stay in Place?



To understand lens dislocation, it helps to understand where the lens sits. During cataract surgery, the cloudy natural lens is removed, but the thin, transparent capsule (the "bag") that surrounded it is left in place. The artificial intraocular lens is inserted into this capsular bag, where it is held in position by tiny fibres called zonules: hundreds of delicate thread-like structures that connect the capsular bag to the ciliary body (the muscle that originally helped the natural lens change focus).

Think of the zonules as the spokes of a bicycle wheel. They radiate out from the capsular bag and hold both it and the IOL within it, keeping them centred and stable. As long as the zonules are intact and strong, the lens stays exactly where it should be.

What Causes a Lens to Dislocate?

Lens dislocation occurs when the zonular support weakens or breaks down. This can happen for several reasons:

Late (Delayed) Dislocation: The Most Common Scenario

This is by far the most common type I encounter. Years after successful cataract surgery, the zonules gradually weaken and eventually give way, allowing the entire capsular bag (with the IOL inside) to shift or fall into the vitreous cavity (the back part of the eye). This process can take five, ten, or even twenty years after the original surgery.

Why do the zonules weaken over time? Several factors contribute:

- Pseudoexfoliation syndrome: This is one of the most common causes. It is a condition where abnormal protein material deposits on structures within the eye, including the zonules, weakening them over time. It is more common in older adults and in certain populations.
- High myopia: The elongated eye and structural differences in highly myopic patients can predispose to zonular weakness.
- Previous eye trauma or surgery: Any injury or surgical procedure that affects the zonules can predispose to late dislocation.
- Certain connective tissue disorders: Conditions such as Marfan syndrome and homocystinuria can cause inherently weak zonules, though these more commonly cause dislocation of the natural lens rather than an IOL.

Dislocation at the Time of Cataract Surgery

Occasionally, the zonules are already weak or damaged at the time of cataract surgery. If the capsular bag is not adequately supported, the IOL may not be well-positioned from the outset, or it may dislocate shortly after surgery. Surgeons are trained to recognise zonular weakness during surgery and can employ techniques to manage it, but in some cases, dislocation still occurs.

Trauma

A significant blow to the eye can rupture the zonules and dislocate an intraocular lens at any point after cataract surgery.

What Are the Symptoms?

The symptoms depend on how far the lens has shifted:

- Blurred vision: This is the most common complaint. As the lens moves away from its optimal position, the focusing power of the eye changes, and vision becomes blurry.
- Double vision (diplopia): If the lens is partially dislocated (subluxated), you may see a second, ghost-like image because light is passing through both the edge of the lens and the area without the lens.

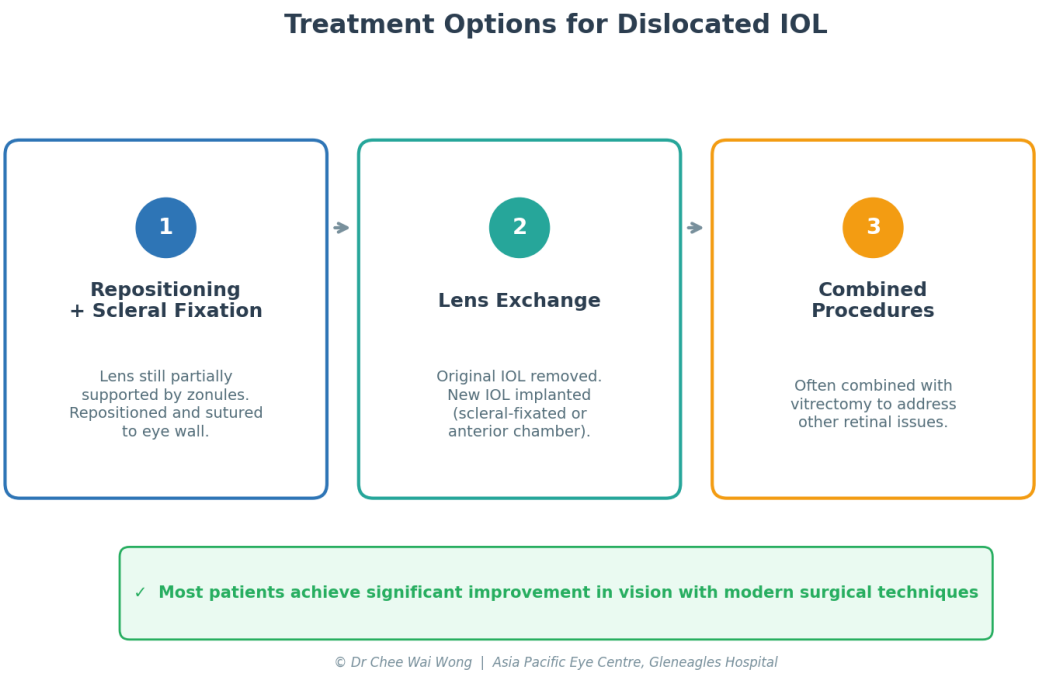
- Seeing the edge of the lens: Some patients describe seeing a crescent-shaped shadow or glare, which corresponds to the edge of the tilted or decentred lens.
- Fluctuating vision: If the lens is wobbling or shifting intermittently, vision may seem to come and go.
- Sudden painless loss of vision: If the entire lens falls into the back of the eye (into the vitreous cavity), there can be a sudden and significant drop in vision.

If you notice any of these symptoms, particularly if you have a history of cataract surgery, it is important to see your eye doctor for an assessment.

How Is It Diagnosed?

A dislocated IOL can usually be seen during a routine eye examination. Your doctor will look at the position of the lens using a slit lamp (the microscope used in eye clinics). In cases where the lens has fallen completely into the vitreous cavity, it may not be visible without dilating the pupil and examining the back of the eye. Ultrasound imaging can also be used to locate a lens that has dropped to the back of the eye.

How Is It Treated?



A dislocated IOL almost always requires surgery to correct. The specific approach depends on the degree of dislocation and the condition of the remaining capsular support.

Repositioning the Lens

If the capsular bag and IOL have shifted but are still partially supported by some remaining zonules, it may be possible to reposition the lens and secure it in place. This is done through a vitrectomy (removing the vitreous gel to access the lens and prevent it

from interfering with the procedure) combined with scleral fixation. In this procedure, the lens or capsular bag is sutured to the sclera (the white outer wall of the eye) using fine stitches, anchoring it permanently in position.

Lens Exchange

In some cases, the original IOL and capsular bag are no longer usable. The dislocated lens is removed from the eye through a vitrectomy, and a new IOL is implanted. This new lens can be:

- Sutured to the sclera (scleral-fixated IOL): The lens is stitched directly to the wall of the eye.
- Placed in the anterior chamber: The lens is positioned in front of the iris (the coloured part of the eye). This is a simpler approach but may not be suitable for all patients.
- Secured using newer techniques: Flanged intrascleral fixation (sometimes called the Yamane technique) uses small flanges on the lens haptics tucked into tunnels in the sclera, providing stable fixation without traditional sutures.

Combined Procedures

Because many patients with dislocated IOLs are older and may have other eye conditions, the surgery is often combined with other procedures as needed. For example, the surgeon may address any retinal issues discovered during the vitrectomy.

What to Expect from Surgery

Surgery for a dislocated IOL is typically performed as a day case under local anaesthesia. The surgery usually takes one to two hours, depending on the complexity. Recovery involves:

- Eye drops (antibiotics and anti-inflammatory) for several weeks
- Some restrictions on activity for a few weeks: avoid heavy lifting, strenuous exercise, and rubbing the eye
- Gradual improvement in vision over several weeks as the eye heals and the new lens position stabilises
- A new spectacle prescription once the eye has fully healed, usually at around six to eight weeks after surgery

The visual outcomes are generally good. Most patients achieve a significant improvement in vision compared to their blurred, pre-operative state. However, the final visual result depends on the overall health of the eye, particularly the condition of the retina and optic nerve.

Can It Be Prevented?

While lens dislocation cannot always be prevented, there are a few things to keep in mind:

- If you have been diagnosed with pseudoexfoliation syndrome, make sure your eye doctor is aware, particularly if you are planning or have had cataract surgery. Additional precautions can be taken during surgery to strengthen the support for the lens.
- Protect your eyes from trauma: wearing protective eyewear during sports or high-risk activities is especially important if you have had cataract surgery.
- Attend regular follow-up appointments after cataract surgery. While late dislocation may not be preventable, early detection allows for timely surgical intervention before complications develop.

The Bottom Line

A dislocated intraocular lens is an uncommon but well-recognised complication that can occur years after cataract surgery. It is not an emergency in most cases, but it does require surgical treatment to restore clear, stable vision. Modern surgical techniques, including vitrectomy with scleral fixation, provide reliable and effective solutions. If you experience a change in vision after previous cataract surgery, do not assume it is just your eyes getting older. Get it checked. It may be something that can be fixed.

Dr Chee Wai Wong is a vitreoretinal surgeon practising at Asia Pacific Eye Centre, Gleneagles Hospital, Singapore. He has expertise in complex lens surgery and vitreoretinal conditions. This article is for informational purposes and does not replace professional medical advice. If you have concerns about your eyes, please consult an ophthalmologist.