



What is keratoconus?

Keratoconus is an eye disease that causes the cornea, the clear window on the front of the eye, to thin out and get weaker over time. As keratoconus progresses, the cornea starts to bulge into a cone shape. The cone results in blurred and distorted vision and increased sensitivity to light. Severe vision loss can occur if progression is not treated early.

What is Corneal crosslinking?

Since around 2006, a procedure called corneal collagen crosslinking has been available to Australians that can slow or halt progression of keratoconus.

- Corneal crosslinking (CXL) is the only treatment currently available to prevent further vision loss from keratoconus.
- It does not cure keratoconus or restore vision already lost. At best, there may be a minor improvement in vision and corneal shape.
- Crosslinking is a minimally invasive procedure which uses ultraviolet light and vitamin B2 (riboflavin) eye drops to stiffen the cornea. Used together, they cause the fibres within the cornea to cross-link – or bond more tightly to prevent the cornea from bulging more.
- This treatment mimics the normal age-related stiffening of the cornea, which is known as natural crosslinking.

For further information on the CXL procedure, types, eligibility, success rate, preparation and recovery, and risks of complications, visit the link or scan the QR code <https://tinyurl.com/cxl-info>



How is CXL performed?

- The traditional CXL procedure, called the standard or the Dresden epithelium-off method, takes around 60 minutes. In this procedure, the surface skin of your eye (epithelium) is removed, and riboflavin drops are applied every few minutes for about 30 minutes. The cornea is then exposed to ultraviolet light for 30 minutes.
- Accelerated CXL can shorten the procedure duration to around half an hour to improve patient comfort without compromising the outcome.
- After treatment, you still need to wear glasses or contact lenses.
- You can generally return to work and drive within 1–2 weeks.
- Minimising UV exposure by wearing a hat and sunglasses for 6 months after CXL may reduce hazing in the cornea.

Is CXL worth the risk?

- Australian research shows that traditional CXL (the epithelium-off method described above) is both very safe and effective, with complications being minimal and temporary in over 90% of cases.
- CXL is not completely risk-free, and is best suited for patients whose keratoconus is progressing, or for patients who are at higher risk for progression, like younger patients.
- It also needs to be done early in these patients, before the cornea is too thin for the procedure to be performed.
- Note that further research is needed to confirm the safety and effectiveness of new, non-traditional protocols (e.g. Epithelium-on) for CXL. There may also be long term issues which have not yet emerged.