

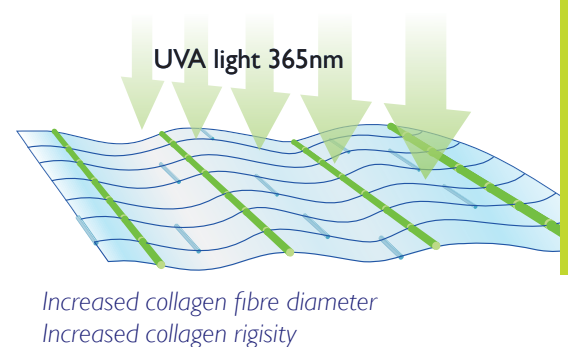
## What is CXL?

Collagen Crosslinking with Riboflavin: Ultraviolet light is used to promote increased cross-linking between collagen fibres within the cornea. Increasing the amount of cross-linking results in increased strength or rigidity of the cornea. Strengthening the cornea by cross-linking its building blocks (collagen) can arrest progression of keratoconus and has also been reported to partially reverse the corneal steepening that has already taken place.

## What does the procedure involve?

The cornea which is the front transparent structure of the eye is first anaesthetised using drops. The procedure is performed in the clinic in a semi-reclined chair or stretcher. Strong antibiotics are also used to prevent infection. The mucous surface of the cornea (epithelium) is disrupted using a special instrument\* and then Riboflavin (Vitamin B2) drops are placed in the eye every few minutes. The drops are yellow and become absorbed by the cornea and the front of the eye.

The eye is checked at the slit lamp biomicroscope by medical personnel to ensure it has been absorbed. A clip is placed in the eye to keep the lids open and the calibrated ultraviolet device is then focused on the eye and switched on for 30 minutes. It is important not to move during the procedure and medical personnel will check periodically to make sure the device is in the correct position. The yellow pigment of the Riboflavin absorbs the Ultraviolet A light. Once the procedure is completed, a soft bandage contact lens will be placed in the eye and antibiotics will be instilled. The contact lens will be removed in one or two days.



## How long does it take for the procedure to work?

Cross-linking takes place as a result of exposure to Ultraviolet light. The cornea increases in rigidity soon after the procedure although the process of cross-linking continues on for a period of a few days afterwards. The effect on corneal shape takes longer but flattening does not occur in all eyes that have had treatment. A satisfactory result will be arresting the progression of keratoconus.

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## How often will I need to be followed?

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You will be seen soon after the procedure to remove the contact lens and you will remain on eye drops for a few weeks. You will be seen at 1 month, 3 months, 6 months and one year. Following this it is important that you be seen on an annual basis by your optometrist as you normally would.

## When can I wear contact lenses again ?

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You may return to wearing lenses after one month. Your lenses may need to be changed if your cornea changes shape.

## Are there any risks ?

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As the mucous lining of the cornea is disrupted, there is a very small risk of infection. This is rare and prevented through the use of antibiotics before and after the procedure.

## Is Ultraviolet light harmful ?

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Ultraviolet A light used in this procedure is not harmful to the eye in measured doses. Ultraviolet C light (in sunlight) is potentially harmful. The Light emitting diodes used in the 3C-R device is of a wavelength that is not harmful. Furthermore, light emission is carefully measured and calibrated prior to each treatment. There is also a self diagnostic check on the device which prevents use in case of a malfunction. There have been concerns about toxicity to the retina (at the back of the eye) however the Riboflavin pigment in the cornea and front of the eye, absorbs the Ultraviolet light and in effect stops the light from being transmitted to the retina.

You may also find the following documents of interest:

[What is... Keratoconus?](#)

[Your guide to Intacs/Ferrara rings](#)

[Your guide to Corneal Transplants](#)

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