

## Advantages of Fresnel prisms

- Restores comfortable single vision and allows depth perception.
- Allows a good area of single vision.
- Cosmetically good.

## Disadvantages of Fresnel prisms

- The prism normally reduces vision.
- Distortion can occur. Lines can appear bent and light may be split into rainbows.

## Permanent prisms

If the situation remains stable for a period of time and a prism is still required to maintain single vision, it can be incorporated into a glasses prescription without the disadvantages of the lines and distortion caused by the fresnel prism.

## For further information and advice please contact:

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## Our Vision

Putting patients first while striving to deliver the best quality healthcare.

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# Double Vision (Diplopia) and care of Prisms



## The Eye Unit

Information and advice for patients  
about Double Vision

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## What is diplopia?

Diplopia is the medical term for double vision.

## Why do I get diplopia?

The eyes are moved using six muscles surrounding each eye. From birth the eyes are designed to work as a coordinated pair, so that if one of the muscles becomes weak, the eyes are unable to work as a pair and diplopia occurs.

## Why is my diplopia variable?

The type of diplopia varies according to which muscle or muscles are defective. Diplopia can be horizontal, vertical, tilted or a combination of all three. It can be present at near and/or distance, or just in one direction of gaze.

## What happens now?

An ophthalmologist (eye doctor) will try to find out the reason the muscle has become weak and this may require further investigations.

You will be referred for an orthoptic assessment. This is an examination that will try and determine where the problem lies. The orthoptist will try to relieve the symptoms where possible and monitor the progress or recovery over time.

## How can I get rid of the double vision?

This can be done in two ways:

### 1. Joining the diplopia using a prism

A prism is used to alter the position of the image received by the eye until only one image is seen. Attaching an optical prism to your own glasses or frames with plain glass does this. These prisms are called Fresnel prisms.

### 2. Eliminating one image

Sometimes it is not possible to join the diplopia so it may be necessary to cover one eye to eliminate the second image. This will provide comfort and safety for as long as necessary. This will not alter the cause of the problem and will not damage the eyesight in any way, but it will affect your depth perception.

## Fresnel Prisms

This is a temporary treatment that can be adjusted as the diplopia changes. The design of the Fresnel prism makes it suitable to be placed on one or both lenses in a pair of spectacles. The prism is made up of lots of tiny prisms made into a thin flexible plastic sheet that can be attached to the inside of the lens.

It has a smooth side and a rough side. The smooth side is stuck to the inside of the lens using water, once dry it rarely falls off.

## Cleaning your Fresnel prism

The rough side of the Fresnel is exposed so it tends to collect dust and may need to be cleaned. Use a gentle stream of water and a very soft brush in the direction of the lines. Pat or blot dry with a soft lint-free cloth.

If the prism becomes dirty with make-up or grease, it may need to be removed and cleaned in the same way with a small amount of washing-up liquid.

## Replacing the prism

If you need to remove the prism or it falls off, it can be replaced quite easily:

- Detect the rough and smooth surfaces of the prism.
- Lay the glasses in shallow warm water and press the smooth side onto the inside of the lens. Check the lines are correctly positioned and straighten if necessary while it is still wet.
- Press out all the air bubbles and ensure the Fresnel prism is entirely within the frame or air bubbles will appear when it dries.
- It is essential that the lines are in the same direction as fitted by the Orthoptist.