




## What is Binocular Diplopia (Double Vision?)

Diplopia is more commonly known as double vision. Binocular diplopia is when two images of the same object are seen, some or all of the time. The two images can be:

Vertically separated (one on top of the other)	Horizontally separated (side by side)	Combination of the two
		

This type of double vision is relieved by closing one eye. Double vision that is not relieved by closing one eye is called monocular diplopia and this will be assessed by an Ophthalmologist.

### Why does double vision occur?

Normally, when the eyes are aligned/straight, the brain receives two images (one from each eye) which the brain joins to form one image. However, due to a muscle imbalance, the eyes can become misaligned and so the eyes no longer work together, resulting in double vision. In essence, the brain receives two images of the same object.

### What causes double vision?

The misalignment of the eyes is caused by a muscle imbalance, which can be caused by a number of conditions. The most common cause is a weakness of one or more of the eye muscles due to damage to the nerve that supplies it. The cause of your double vision will be investigated fully, and your Orthoptist will keep you fully informed.

### What can be done to help with double vision?

Over time double vision can improve, with sometimes complete recovery depending on the cause. In the meantime if the double vision is constant, or troublesome (and present when looking straight ahead) a Fresnel prism (see diagram) can be applied to the lens of your glasses. The Fresnel prism joins the two images.

## Information for Patients

---

If the double vision cannot be joined, it may be necessary to cover one eye in order to block out the second image. This can be done with a patch or blinder (tape) over one lens of the glasses, or, less commonly, an occlusive (opaque) contact lens.

Over the time, as improvement occurs, the two images may get closer together. This can feel more troublesome, but it does mean that the alignment of the eyes is improving. You will be seen on a regular basis in order to assess if the double vision is resolving or changing, however, if you feel there has been a change in your double vision, please contact the Orthoptic department for further advice.

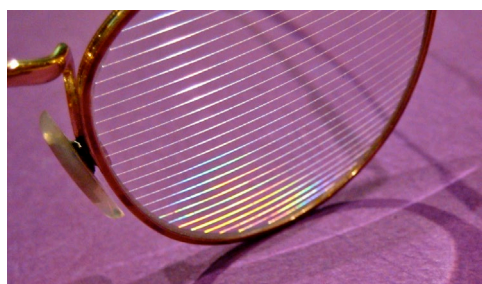
### **The Use and Care of Fresnel Prisms Information for Parents and Carers**

#### **Why are Fresnel prisms prescribed?**

Fresnel prisms are prescribed to relieve symptoms of double vision.

#### **What are Fresnel prisms?**

A Fresnel prism is made from a light, flexible plastic sheet that can be cut to the shape of the lens of your glasses to help with your double vision.



#### **How do Fresnel prisms help with my double vision?**

They bend the light and so move the position of the second image to give you one single image. Fresnel prisms only help you get single vision when looking straight ahead, so you may still be aware of double vision when looking to the sides, up or down. To help with this, try to move your head to look in different directions, rather than moving your eyes.

Fresnel prisms come in a range of strengths and the Orthoptist will assess you to see which is most suitable; this can be reviewed at subsequent appointments as your condition and double vision may change over time.

#### **Why do I have to use a temporary prism?**

Your double vision may change. Over this time you will be assessed regularly and the prism changed as the double vision improves. This is why we use a temporary prism that can be applied, changed and removed with ease and at no cost to yourself. Permanent prisms can be built into your glasses but because your condition may change and incorporation of prisms can be expensive, we do not recommend it until the condition is stable and your Orthoptist has advised you that it is clinically suitable.

#### **How long will I need to wear the prism for?**

This varies from person to person. Most conditions recover or improve but the time scale for this to occur can be weeks in one patient and months in another. As your condition changes, the prism will be changed accordingly. If complete recovery occurs, the prisms will be

## Information for Patients

---

discarded once you can maintain single vision, however sometimes the double vision persists and the prisms are needed long-term.

### How are Fresnel prisms applied?

After the Orthoptist has measured which is the most suitable strength prism for you, it will be cut to the shape of the lens of your glasses. The smooth side of the prism will be applied to the inside surface of the lens using water, and then air bubbles pressed out. Once dry, it will remain firmly in place. The Fresnel prism should **never be applied using glue or adhesive**.

The Fresnel prism will usually be fitted onto one lens, but if necessary, both. The prism will be applied to help you in situations you get double vision, for example, if you only notice double vision when reading it will be applied onto your reading glasses, or the bifocal segment of your glasses if wearing bifocals.

### What if I do not wear glasses?

If you do not need prescription glasses, you can still use Fresnel prisms on a pair of non-prescription (plano) glasses that we can provide.

### Will the prism affect my vision?

Although the prism will help with your double vision, you may notice a slight blurring or distortion of the vision in the eye the prism has been put in front of, but this will not be noticed when you are using both eyes. You may also notice the colours of the rainbow appearing when looking at bright lights this is normal and is caused by the prism splitting the light into its different colours.

### Can I clean my Fresnel prism?

The Fresnel prism has a smooth side which is applied to the inside surface of the lens and a bumpy, corrugated side that is exposed and this side can collect dust and grease. If it requires cleaning you can use a gentle stream of water and a soft brush to brush gently in the same direction as the lines on the prism. It is not recommended that you remove the Fresnel prism for cleaning.

### What if the prism falls off?

If the prism falls off, it can be replaced easily.

1. Please take a moment at each appointment to note the direction of the lines of the prism and which lens the prism is on when fitted by the Orthoptist. It is essential that the lines on the prism are in the same direction as when the prism was fitted by the Orthoptist and that the prism is replaced on the same lens of your glasses if it falls off or is removed.
2. Whilst holding the glasses under a gently running tap, press the smooth side of the prism to the inside of the correct lens of your glasses.
3. Remove the glasses from the water, check the lines of the prism are correctly positioned then push out the air bubbles under the prism with your thumb.

## Information for Patients

---

**Orthoptic Department  
Clinic Contact Numbers:  
Appointments:**

**Nurses answer  
phone:**

**Orthoptic Office:**

**Heartlands      0121 424 0543  
Solihull          0121 424 4463  
Good Hope      0121 424 9651**

**0121 424 1536  
0121 424 4456  
0121 424 9533**

**0121 424 0950  
0121 424 4450  
0121 424 9677**