



**University
Hospitals Sussex**
NHS Foundation Trust

Astigmatism

Orthoptic Department

Patient information

This leaflet is intended to answer some of the questions of patients or carers of patients diagnosed with astigmatism under the care of University Hospitals Sussex NHS Foundation Trust.

What is astigmatism?

Astigmatism is a common condition of the eye which causes blurred or distorted vision. This is due to an irregular shape of the cornea (the front clear surface of the eye) or the lens, preventing light from being focused properly on the retina (the light sensitive surface at the back of the eye).

Slight amounts of astigmatism usually don't affect vision and don't require treatment. However, larger amounts cause distorted or blurred vision and require glasses to correct this.

Astigmatism often occurs with other vision conditions such as short-sightedness (Myopia) and long-sightedness (Hypermetropia). Together, these vision conditions are called 'refractive errors' because they affect how the eyes 'refract' or bend light.

What is the cause of astigmatism?

The exact cause for astigmatism is unknown. It can be inherited and is usually present at birth. It can change as a child grows and may get better or worse with time.

What are the signs and symptoms?

Children are good at adapting to blurred vision and will often not show any signs of having astigmatism. Sometimes a child can want to sit closer to the T.V. than normal, or complain of headaches, light sensitivity, tiredness and blurred vision.

How is the vision tested?

Vision tests are available for all age groups – ranging from pictures that are simply looked at, to matching pictures or letters

on a card, or naming letters or numbers. These vision tests can detect whether vision is clear or blurred.

How do you test for glasses?

This is done by an Optometrist. Children with long-sightedness are very good at overfocussing to see as clearly as possible. This can result in false readings as to what the glasses prescription should be. To overcome this young children are often asked to have eye drops instilled in both eyes just before the Optometrists appointment.



These eye drops stop the eyes from focussing for a few hours so that the Optometrist can get an accurate reading. The eye drops also widen the pupils to give the Optometrist a good view of the back of the eye – this can last several hours (it is not unusual for children with fairer complexions to still have larger pupils than normal the day following the Optometrist test).

During the glasses test the Optometrist will shine a light into the eye and look for a reflex within the eye. No responses are required from the patient meaning this type of glasses test can be done on all age groups.

How is it treated?

Very mild astigmatism may not need treatment – your Optometrist will tell you if this is the case. Glasses, contact lenses or refractive surgery can be used to make the vision clearer. In children,

glasses are the most effective treatment. The lenses used to correct astigmatism are called 'cyls' or 'cylinders' and are indicated as the CYL part of the prescription. Unless told otherwise by your Optometrist or Orthoptist the glasses are to be worn all of the time.

Adaptation to glasses can take up to 18 weeks and we would expect a gradual improvement to vision over this time.

Are there any complications?

Keratoconus is a rare condition where the cornea becomes thinner and cone shaped. This results in increasingly large amounts of astigmatism resulting in poor vision which is not fully corrected by glasses.

Keratoconus usually requires contact lenses for clear vision, and may eventually result in needing surgery on the cornea.

A Keratometer is an instrument sometimes used to measure the curvature of the cornea. By focusing a circle of light on the cornea and measuring its reflection, it is possible to tell the exact curvature of the cornea's surface.

A more sophisticated procedure called corneal topography may be done in some cases to get an even more detailed idea of the shape of the cornea.

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