

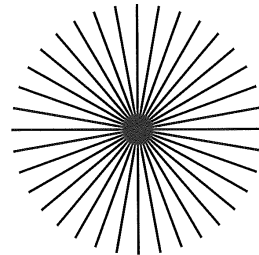
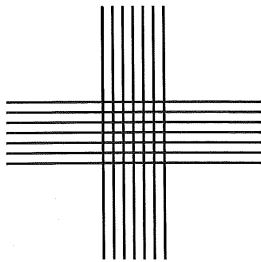
# Astigmatism

## What is astigmatism?

Astigmatism is a very common refractive (focussing) error of the eyes which can cause blurred vision. It occurs as a result of irregular curvature on the surface of the cornea (corneal astigmatism) or in the lens of the eye itself (lenticular astigmatism).

Astigmatism may cause blurring of both distant and near objects. You can be born with astigmatism or it may develop as you age. Astigmatism can also occur in combination with either near-sightedness (myopia) or far-sightedness (hyperopia).

Astigmatism may be experienced as uneven blurring because the irregular curvature can make some parts of what you view more out of focus than other parts. By using the diagrams below, you can create an effect like that of astigmatism. If you are viewing the diagrams on a computer screen move your head to the side and look at the screen at an angle (about 30°) notice the horizontal lines are more distinct or if you print the diagrams to paper and when you tilt the top of the printed page away from you. Lines running across the page will appear less distinct than lines running up and down.



The blur resulting from uncorrected astigmatism can make things (such as print) uncomfortable to look at, difficult to focus on, and may cause headaches, tiredness and poor concentration. Your optometrist can prescribe glasses or contact lenses to correct your astigmatism and provide you with clear, comfortable vision.

## Why do I get tired eyes?

If you have tired eyes you may have uncorrected astigmatism. Astigmatism can cause fatigue if you are concentrating on a visual task (reading, computer use, driving, etc.) for a long period of time. Your focussing system is constantly adjusting, trying to achieve a sharp image which the astigmatic eye cannot produce without optical correction. Fatigue or frontal headaches may occur if you 'squint' your eyes to see more clearly, causing the muscles of the eyelids and face to become uncomfortable.

## What can you do?

See your optometrist for a comprehensive eye exam. This will provide a diagnosis for the cause of any vision problems, including astigmatism. If you do have astigmatism your optometrist will provide professional advice about the range of options to correct your vision.

### What are the Treatment Options?

Corrective lenses counteract the focussing error caused by irregular curvature of the cornea or internal lens of the eye. Refractive surgery can be used to reshape the surface of the eye.

- **Spectacles:** Prescription glasses correct both corneal and lenticular astigmatism and smooth the focus across your field of view. Depending on your degree of astigmatism they may need to be worn all the time or just when concentrating on a specific task. A new spectacle correction for astigmatism can be uncomfortable to wear for the first day or two because the sharp clear vision it affords may also have some distortion. For instance a round plate might appear oval or a flat table might seem bowed. Most people quickly adapt to this, but in some cases the optical prescription may need to be modified to achieve a particular balance between clarity and visual comfort. Your optometrist will be able to discuss this with you as part of evaluating treatment options best suited to your astigmatism.
- **Contact Lenses:** A wide range of lens technologies is available in both hard (rigid gas permeable) and soft (usually disposable) materials, and including options for extended wear. Ask your optometrist which ones will be best for you in correcting your astigmatism.
- **Refractive Surgery:** Refractive surgery can permanently reshape the surface of your eye using methods such as LASIK, PRK, and LASEK. Ask your optometrist for more information; he or she will be able to assist with an assessment and referral if appropriate.
- **Regular Eye Exams:** The NZ Association of Optometrists recommends a regular eye examination every 2 – 5 years for healthy adults. After age 65 more frequent exams are necessary to ensure early diagnosis and treatment of sight threatening conditions such as glaucoma and age-related macular degeneration (ARMD).