

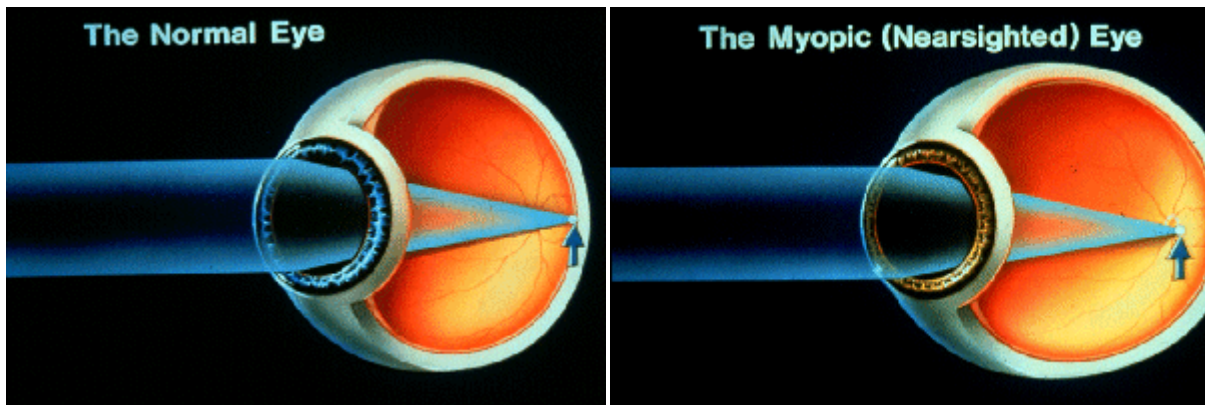


Errors of Vision Explained

Many people who wear spectacles or contact lenses go through life knowing that they are short or long sighted, or have astigmatism, without ever understanding exactly what this means. The aim of this page is to introduce you to the basic concepts of vision correction and show you some of the equipment we have at our disposal to aid us in our diagnosis

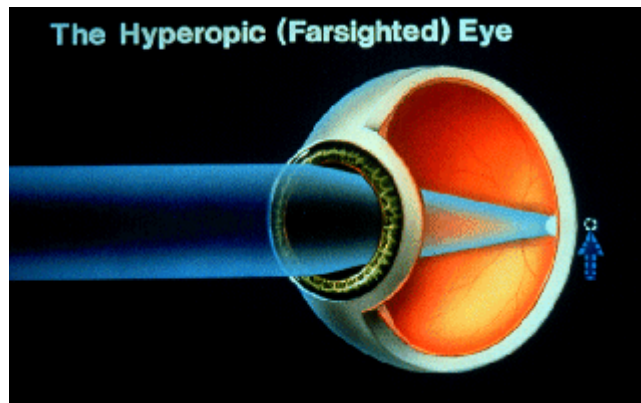
MYOPIA

Myopia is the term used to indicate short sight. In this situation the light rays from a distant object come to a focus in front of the retina causing the image we see to be blurred. Myopia is corrected with 'minus' lenses, which are thicker at the edge than they are at the center. Myopic people can usually see clearly for close vision without their correction in place but their distance vision is very blurred.



HYPERMETROPIA

If you are long sighted then you suffer from hypermetropia, or hypermetropia for short. In this case the light from a distant object is focused behind the retina, or at least it would be if the retina was not there, so the image on the back of the eye is again blurred. Hypermetropia is corrected with 'plus' lenses, which are thicker in the center than they are at the edge. Young people with low to medium errors of long sight can often focus quite clearly for distance, but near vision will be difficult - this problem increases with age.



ASTIGMATISM

Astigmatism is always difficult to explain or describe. The easiest answer is that instead of being spherical, like the surface of a football, the front surface



of the eye, called the cornea, is unequally curved like a rugby ball. The effect this has on the vision is that for a given object two images are formed in the eye produced by the two different curvatures. This obviously leads to blurred vision, and needs to be corrected with a 'toric' or 'astigmatic' lens to bring the two focuses together. Astigmatism can exist on its own or be combined with either long or short sight.