

## Introduction

The eye has primary light focusing structures. The first is the cornea—the clear front surface of the eye. This has the majority of the focussing power. The second is the ocular lens, within the eye, immediately behind the iris (Fig. 1). When viewing a distant object the total ocular system, including the cornea and lens should bring the parallel rays of light from a distant object to a focus on the retina (Fig. 1).

## Myopia

If an eye is short sighted (Myopic) the focussing system is too strong in relation to the length of the eye. Therefore light will be focused in front of the retina (Fig. 2) and only a blurred image will be projected onto the retinal surface. Light rays from a close object however are not parallel (divergent) and require more power to focus - therefore, if held close enough, near objects will be perfectly clear (Fig.3). The closeness an object has to be before it becomes clear depends on how short sighted you are.

## Myopia Progression

The most common form of short sightedness is Axial Myopia. This is when the length of the eye has grown out of proportion with the power of the focussing surfaces. Most people begin life slightly long sighted, if the eye starts to grow in length the person will simply become less long sighted. However, if the growth continues past the neutral point the eye then passes into myopia. This is why short sightedness may not become apparent until a person is in their teens. Unfortunately, until the growth phase stops the myopia will continue to change and worsen. Hence, after first becoming short sighted there may be regular upgrades of the spectacle powers as the myopia progresses. This can be quite depressing for the patient as every time they are examined they are told they need stronger spectacles. It is also understandable why many people believe the glasses themselves are inducing the ocular changes. This is not the case, however until the eye stops growing the myopia will progress. The period for progression is variable, but once the growth stops there is a very long period of stable vision where little or no change occurs.

## Myopia Control

Myopia control is now a real option for people as they become short sighted. For full details please see our Myopia Control Fact Sheet which covers this in detail.

## Eye Health

It is important for young myopes and their parents to know the progression is not indefinite and will stabilise. Once the correct optical correction is implemented they will see as well as anyone else.

However, the level of myopia does carry some slight ocular health risks, increasing with the myopia level. Myopia control is important not simply to reduce progression for lifestyle reasons but reduces the risks of myopia associated retinal problems.

## Myopia Correction

The correction of myopia is to push the focus back toward the retina. This can be done with either minus spectacles or contact lenses or by remodelling the corneal shape through laser surgery or Orthokeratology.

