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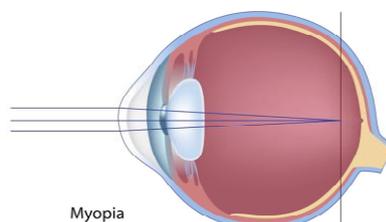
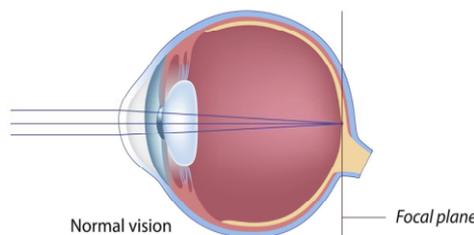
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MYOPIA CONTROL IN CHILDREN

WHAT IS MYOPIA?

Myopia or short-sightedness (which is the more commonly known name), is one of a group of eye conditions known as refractive errors. In Myopia, the affected eye can see clearly for near objects but is blurred for distance objects. This is largely due to an eye ball which is too long and consequently the object of interest in the distance is brought to a focus in front of the retina.



About the Author.....



Dr Lee Mun Wai is the Medical Director of LEC. He is a graduate from University of Manchester, UK and subspecializes in the management of retinal diseases, such as retinal detachment, diabetic retinopathy, age related macular degeneration, macular hole, epiretinal membrane and retinal vascular occlusions. He performs many complex retinal surgeries and is well versed with the use of intravitreal anti-VEGF agents in the management of retinal diseases. He has also performed thousands of complex cataract surgeries and pterygium surgeries and is also competent in squint surgery and eyelid and ptosis surgery. Dr Lee is also the head of the Vitreoretinal service at LEC and is a Visiting Consultant Ophthalmologist at Perak Community Specialist Hospital and Ipoh Specialist Hospital.

CAUSE OF MYOPIA

Research has shown that myopic eyes tend to be longer and near activities (reading, computer, mobile devices, etc) have been associated with increased risk of myopia and increased rate of progression of myopia.

Myopia may also be inherited but genetic studies to date have not been conclusive.

TREATMENT OF MYOPIA

There is no 'cure' for myopia but blurred vision from myopia can be easily corrected with glasses or contact lenses and sometimes laser surgery. Contrary to what many people believe, wearing glasses **DOES NOT** increase myopia – glasses merely acts as a tool to provide clear vision.

THE MYOPIA EPIDEMIC

There has been a significant trend recently, particularly in certain parts of Asia, towards an increasing prevalence of myopia. Recent studies have estimated the current global prevalence of myopia to be about 30% which will increase to almost 50% by 2050 based on current trends!! Imagine half the world's population being shortsighted!!

Children are found to be short-sighted at a younger age and studies have shown that besides there being a genetic component, a strong environmental influence is also at play. Near activities such as reading, computer, television, mobile devices (hand phones, iPads, etc) have been shown to increase the risk as well as the rate of progression of myopia. As our children become increasingly exposed to these activities together with the parents' demands for academic excellence (more studying!), this 'epidemic' will continue to spread like wildfire!

With earlier onset of myopia, the children have increased risk of progression to high myopia (> -6D) and with that, there is increased risk of potentially blinding conditions such as retinal detachment, myopic macular degeneration, cataract and glaucoma.

Research is ongoing into how to halt this disturbing trend and to date, there are different strategies available for myopia control in children.

ATROPINE EYEDROPS



Atropine is a medication which was first described in 4th century BC but had become more well known during the European Renaissance (14th to 17th Centuries) where women used juice of the berries *Atropa Belladonna* to cause dilatation of their pupils and appear more alluring!

Since then however, the medicinal uses have extended to ophthalmology and currently, there has been good evidence for the use of Atropine 0.01% eyedrops for the control of myopia progression in children.



The largest study to date was done in Singapore and the results have shown that daily usage of Atropine 0.01% (Myopine) eye drops in children can slow the progression of myopia.

(More details below)

OTHER STRATEGIES

There has been recent evidence from a scientific paper which compared numerous interventions for myopia control which showed that **Atropine eyedrops** was the most effective (and cost effective) option. Other popular strategies for myopia control include:

Orthokeratology – This is the use of special contact lenses which the child has to wear to sleep every night in order to alter the shape of the cornea and correct myopia. Studies have shown that Ortho-K

lenses can also slow the progression of myopia however, these lenses are expensive and there are significant challenges in using contact lenses in children. Parents have to be vigilant to ensure good lens care and maintenance in order to minimize the risk of visual loss from corneal infections.

Myopia control lenses – These are glasses or contact lenses which are specifically designed to induce an intentional defocus in the peripheral vision so as to control the rate of progression of myopia by reducing the stimulus for elongation of the eyeball. This has been shown to have only a weak to moderate effect on the progression of myopia.

Bifocal or progressive addition spectacles - These lenses are similar to those used by adults which has a separate reading segment(bifocal) or a gradual change in the ‘power’ of the lens(progressive) to allow easier reading. This theoretically reduces the focusing effort and helps to slow progression of myopia but the effects are only modest.

Other options which have been tried are soft contact lenses, under-correction with single vision spectacles and increasing outdoor activities all of which have

been shown to be ineffective in controlling the progression of myopia.

MYOPIA CONTROL PROGRAMME AT LEE EYE CENTRE

At Lee Eye Centre, we have a treatment programme to manage myopia progression in children*. This includes:

- Nightly use of *Atropine 0.01%* eyedrops
- Prescription of standard eye glasses of appropriate ‘power’
- Regular monitoring of refraction and axial length

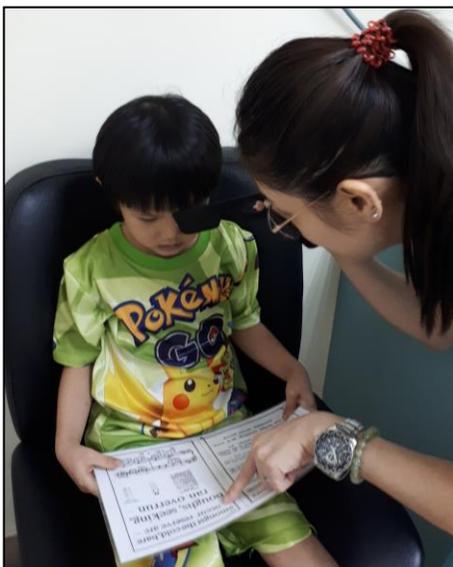
There will be a minimum treatment period of 2 years required as the study has shown that treatment effect may be better in the second year in some children.

If there is continual progression of myopia, combination treatment of *Atropine eyedrops* with *Myopia Control Glasses* may be considered.

(* Please discuss with our ophthalmologists to see if your child is suitable for treatment)

ACTIVITIES OF LEC

World Sight Day 2017 – Free Eye Screening for Orphans



Vision check



‘Eye power’ check



Eye examination by our Medical Director, Dr Lee Mun Wai



Eye examination by our Senior Consultant Ophthalmologist, Dr Lim Eng Hock



Free glasses provided by iCare Optical Sdn Bhd

Emergency Contact: Perak Community Specialist Hospital: 05-2548918/05-2545949

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