Getting to NUH Medical Centre

By MRT

1. Alight at the Kent Ridge MRT station (Circle Line). Look for Exit C.

2. You are now at Level 1 of the NUH Medical Centre. Use lifts at Lift Lobby B to get to the clinic levels.

By Taxi or Car

1. The NUH Medical Centre is accessible via Lower Kent Ridge Road.

2. Alight at the NUH Medical Centre entrance. Parking is available at Levels 5, 6, 7 and 7A.

3. Take lifts from Lift Lobby B/C/D to the clinic levels.

Location

Contact Us

17c – Eye Surgery Centre
NUH Medical Centre, Level 17

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Fax: 6734 3965
Email: eye_surgery@nuhs.edu.sg
Website: www.nuh.com.sg/eye
Opening Hours: 8.30am - 6.00pm (Mondays - Fridays)
8.30am - 12.30pm (Saturdays)

National University Hospital
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Information is correct at time of printing (May 2014) and subject to revision without notice.
What is myopia?

Myopia is a common condition in Singapore, and can develop as early as kindergarten age. It can progress rapidly during primary school years (100-150 degrees per year), but will usually slow down during teenage years and stabilises thereafter. In Singapore, it is estimated that 10% of kindergarten children, 60% of primary school students and 80% of young adults are myopic.

Myopia arises from excessive growth of the eyeball, such that light from a far object falls out of focus within the eye. Distance objects appear blurred but near objects can be seen clearly. Spectacles, contact lenses and LASIK can be used to achieve good vision but do not address the problem of increased eyeball length.

Adults with high myopia (increased eyeball length) are more likely to develop retinal tears, retinal detachments or macular degeneration, which are potentially blinding conditions. The risk of glaucoma and cataracts is also slightly higher than in the general population.

What is atropine and what can atropine eye drops do for myopia?

Atropine is not a new drug. It has been used for many years for other eye conditions such as lazy eye or inflammatory eye diseases. The first clinical trials for myopia on children were done in the 70s. More recently, atropine has been tested in Singapore on 400 myopic children at the Singapore Eye Research Institute. The results showed that over a 2-year period, the average increase in myopia in children on atropine was 25 degrees compared to 125 degrees in those not using atropine. They concluded that atropine in the short-term is safe, and can reduce myopia progression.

A follow-up study of the same group of children after stopping treatment showed that although there was some rebound in myopia progression, the effect persisted at one year after stopping the medication. However, questions of whether the effect is sustained in the long run, the duration of treatment required, and potential long-term complications are yet unanswered.

The latest research has shown that a lower concentration of atropine (0.01%) has minimal side effects compared to higher concentrations but retains comparable efficacy in controlling myopia progression. The rebound on stopping the drops also appeared to be less, at least at one year.

What are the side effects of atropine eye drops?

These side effects are temporary and will disappear sometime after stopping the eye-drops.

Atropine eye-drops dilate the pupils. This lets in more light into the eyeball. The pupils are unable to constrict to block out the sunlight and your child may complain of glare in bright sunlight. There is usually no problem indoors. Photochromatic lenses, clip-on sunglasses, prescription sunglasses, caps may need to be used.

Atropine causes blurring of near vision as it weakens the focusing muscle of the eye that helps the child to read and focus near. When both eyes are receiving atropine simultaneously, your child will need to wear either multifocal or bifocal glasses to help with near vision. Multifocal lenses (progressives) are more cosmetically acceptable but have a narrower field of clear vision. Bifocal have a line across but have a broader field of vision and are cheaper. Children may prefer progressives.

Generally, the above side effects are common with the 1% concentration of atropine. With the lower concentration of 0.01%, the 2 side effects mentioned above (pupil dilation and blurring of near vision) are almost always negligible. We generally start our patients on the 0.01% concentration but occasionally, if the child does not respond to the 0.01% concentration, we may need to increase the concentration.

Systemic side effects such as flushed face, fever, rapid heart rate, dry mouth and skin, constipation, drowsiness, occurs mostly in infants and toddlers. These have not been reported in those myopic children treated with atropine in Singapore.

Keep the eye-drop in a safe place as a toddler may accidentally drink it, resulting in poisoning.

The long-term effects of atropine on the eye are not yet known. Potential problems that are of concern, but have not been reported include:

1. Possible long-term effect of increased light exposure on the lens and retina which may lead to premature cataracts or retinal dysfunction/macular degeneration.
2. Long-term effect of paralysis of focusing for near (although the Singapore study has shown full recovery of all children who have been treated for 2 years).

QUICK FACTS

1. Atropine eye drops generally slows progression by 60%
2. Generally, most children will respond to the 0.01% concentration which is generally as effective as the 1% concentration
3. It is to be administered every night
4. May need to be used for 2 years or more
5. Generally will not require special spectacles (photochromatic, progressive glasses) if the child is on the 0.01% concentration
6. Generally safe with few, rare side effects

*The information provided is not exhaustive. Further discussion with your physician is strongly recommended.*