



Decades ago, the minute school was over, children would dash outdoors to play. In the Internet Age, however, children can more commonly be seen glued to their tablet computer screens or hunched over a book in a tuition centre.

Not surprisingly, this has been accompanied by a surge in the number of children becoming shortsighted. This is especially so in Singapore, which has, unfortunately, been dubbed the myopia capital of the world. In the West, fewer than 5% of children aged eight years or younger were found to have myopia (or shortsightedness) compared to the 9–15% of preschool children and 29% of primary school children here.

Myopia is the most common human eye disorder in the world. It affects 85–90% of young adults in Asian countries such as Singapore and Taiwan, and 25–50% of older adults in the US and Europe.

The incidence of myopia in children is especially high in Asian countries such as

# PARENTS' GUIDE TO MYOPIA

HOW TO DELAY OR SLOW DOWN THE ONSET AND PROGRESSION OF MYOPIA IN YOUR CHILD.





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Singapore and China. Among the general population, incidence of the disease has also been increasing; it is now two-thirds higher than it was between 1971 and 1972.

#### WHAT CAUSES MYOPIA?

In most cases, the cause is a combination of genetic and environmental factors. Family history is a high-risk factor for developing myopia. Children whose parents are myopic are more likely to become shortsighted themselves. Studies have shown that the Chinese are genetically predisposed towards myopia.

While genes play a part, current studies show that environmental factors, particularly reduced outdoor time, may be propelling the alarming rise of myopia in our region. The top environmental risk factors are excessive reading and writing, computer use and lack of time spent outdoors. Current studies show that time outdoors is important as exposure to high light levels may cause the release of dopamine in the retina and prevent or slow down the onset and progression of myopia.

Becoming shortsighted at an earlier age increases the susceptibility to complications in adulthood. The earlier the

childhood myopia starts, the worse it will become before it stabilises. The worse the myopia, the greater the lifelong risk of blindness due to associated eye problems such as glaucoma, retinal detachment, macular degeneration, and premature cataracts.

Myopes have an increased risk of developing macular choroidal neovascularization (development of abnormal leaking blood vessels in the retina), ranging from two times for patients with 1D–2D of myopia, to four times with 3D–4D of myopia, and nine times for 5D–6D.

#### HOW DO I TELL IF MY CHILD IS SHORTSIGHTED?

Most often, young children with shortsightedness may move closer to objects to see clearly. If your child has to edge closer to the TV, he or she may be trying to see the screen better. This could be a sign of shortsightedness.

Many times, children won't speak up when they can't see the board in school. They may not want to admit that they need glasses or they may be so accustomed to blurry vision that they don't realise they should be able to see the board clearly.

#### WHAT CAN I DO TO PREVENT MYOPIA IN MY CHILD?

Practising good habits is essential to prevent myopia in

### What you can do about your child's unhealthy eye habits

**Problem:** My child watches TV seated too close to the set.

**Solution:** The bigger the TV screen, the further away your child should sit. TV time and computer/tablet use should be limited. Recent evidence suggests that the intensity of near work such as sustained reading at a closer distance (less than 30cm) with fewer breaks may have a greater impact on eye health than total hours of near work.

**Problem:** How bright should the screen be?

**Solution:** Brightness and resolution must be properly adjusted so that the eyes are comfortable.

**Problem:** My child reads with a torchlight or phone light in the dark.

**Solution:** Adequate lighting is essential to maintain good eyesight. You need to ensure your child reads under a proper light source.



your child. Parents should teach their children to take frequent breaks and rest the eyes when doing near work such as reading, watching TV or using the computer.

One of the best things you can do for your child is to encourage him or her to go out and play more often. This is a good way to delay, if not prevent, the occurrence of myopia.

Another step you can take if you see your child showing signs of myopia is to ask your doctor or an eye specialist about atropine. Of the pharmacological and optical devices investigated

so far, atropine eyedrops are the most promising treatment for progressive myopia in children.

A daily dose of atropine 0.01% is an effective first-line treatment in children with progressive myopia. This is pertinent, especially in children with a family history of retinal detachment, retinal holes or high myopia.

The eyedrops do not cure but slow down the myopia's progression by at least 50%. Thus, a shortsighted child whose eyesight would normally worsen by 100 degrees a year could experience only a 50-degree increase or less. In some



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cases, the myopia stabilises totally, and this continues till the eyeball stops growing. Atropine, a plant extract, seems to stop the eyeball from growing longer, a hallmark of myopia. The low concentration of atropine means patients don't need to wear sunglasses when they are outdoors, and won't experience difficulty in near vision. They can go about their lives as usual.

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### SERVICES

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- Atropine treatment
- Screening, diagnosis, treatment and management of myopia, strabismus, lazy eye, glaucoma, diabetic retinopathy and age-related macular degeneration
- Retinal screening and disease management
- Presbyopia correction
- Treatment of eyelid and eye problems, external eye diseases, including infection and allergies