

PROTECT YOUNG EYES

IN CHILDREN, TIMELY
INTERVENTION IS CRUCIAL
TO PREVENT A LIFETIME OF
POOR VISION.



Singapore has the world's highest prevalence of myopia among seven- to nine-year-olds and an alarming trend of children getting myopia at a younger age.



Paediatric ophthalmology tackles eye diseases, visual development and vision care in children. Early treatment of eye conditions in children can save them from serious problems later in life. For example, when an adult develops a cataract, surgery can be scheduled at any time to restore his vision. However, for children with congenital cataracts, lazy eye caused by visual deprivation can result in permanent poor vision if surgery is delayed.

COMMON EYE CONDITIONS IN YOUNG CHILDREN

Lazy eye

Amblyopia (lazy eye) refers to decreased vision in a child even when the structure of his eye is normal — something has disrupted the cortical visual development. In most cases, it only affects one eye; but if both eyes are deprived of good, clear visual images for prolonged periods, amblyopia can arise in both eyes. The three main causes of lazy eye are:

- Strabismus is a misalignment of the eyes that affects 2–4% of the population. An example of strabismus is inward turning misalignment, widely referred to as 'crossed eyes'. The term strabismus also applies to upward, downward and outward turning misalignments. When one eye turns, the corresponding part of the brain 'switches off' the

eye that is not straight, and vision subsequently drops in that eye. In Singapore, the most common misalignment is intermittent exotropia (outward deviation).

- Deprivation amblyopia develops when media opacities (such as cataracts, vitreous haemorrhage, droopy eyelids) block the visual axis of the eye and 'deprive' it of visual experience. This can affect one or both eyes.
- Refractive amblyopia occurs when there is a large or unequal amount of refractive error (glasses strength/degree) in a child's eyes — also known as abnormal spectacle power. The brain will usually 'switch off' the eye that has more refractive error. This form of amblyopia often goes undetected until the child has a vision test, as the eyes look normal and the child functions well.

Myopia

In myopia, close objects are seen clearly, but objects far away appear blurry. Singapore has the world's highest prevalence of myopia among seven- to nine-year-olds and an alarming trend of children getting myopia at a younger age.

DON'T MISS THESE SIGNS

Children with amblyopia often do not flag up vision problems. A problem is usually first discovered during a vision test.

Occasionally, parents will notice a squint (strabismus) when one eye appears to be misaligned.

Signs of strabismus include unusual head tilting or face turning, squinting, closing one eye when gazing intently at something, clumsiness or the appearance of not looking directly at the object of regard.

Children who have myopia may complain of problems seeing distant objects, such as oncoming bus numbers, the whiteboard in class, or television. Children with uncorrected refractive error may also tilt or turn their heads or narrow their eyes to see better.

ACT BEFORE IT'S TOO LATE

Any child can develop eye problems. Certain groups of people — those with a family history of myopia, children born prematurely and children with Down's syndrome — may have increased risk of eye conditions.

It is important for parents to be vigilant and take their child for eye checks promptly so that problems can be prevented, diagnosed and treated early. A comprehensive paediatric eye examination can be conducted at any age. Some parents have the misconception that the child is too young to be checked. In the eye clinic, special techniques are available to measure visual acuity in preverbal children. Checking eye power (refraction) can be done using methods such as cyclo-

retinoscopy, which does not require the child to read.

As long as the child's visual behaviour is abnormal, or if the eye does not seem to be fixing well, the child needs to be evaluated by an eye specialist. Even when there is no apparent problem, parents are advised to send their children for a detailed eye examination at least once between the ages of three and five. Children with risk factors should be evaluated earlier.

As amblyopia can only be treated well during early childhood, eye screening is strongly recommended over the course of childhood to allow early detection and successful remedy. Infants are examined for the ability to fix and follow and whether they have strabismus. Treatment may take years, but it is often more effective when started earlier. If lazy eye is discovered too late, it may not be possible to reverse the visual damage.

The child needs to be encouraged to use the lazy eye.

A common method is patching or covering the good eye, typically for several hours per day. If there is abnormal spectacle power, the child should wear appropriate spectacles. Depending on the type of strabismus, treatment options include patching, exercises, glasses and/or surgery. Children do not outgrow strabismus. If left untreated, it can result in lazy eye, loss of depth perception, double vision or permanent loss of vision when the child grows up.

Steps must be taken to slow the progression of myopia, such as using atropine eye drops during childhood and spending more time outdoors, both of which can delay its onset and development. A child's myopia worsens with age and does not stabilise until he reaches his late teens. The higher the myopia, the more susceptible a person is to blinding complications such as retinal detachment, myopic macular degeneration, cataract and glaucoma — these risks are lifelong.



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