

New lenses for myopic kids

French lens maker unveils new progressive and bifocal lenses that claim to be able to reduce the rate of myopia progression by up to 62 per cent in kids. JOAN CHEW reports

Unlike most parents, housewife Adeline Goh wants her two daughters to read less – for their own good.

Wing Xuan was found to be shortsighted at age five. Now eight years old, she has myopia of 550 degrees.

Her elder sister, Wing En, 11, is not much better, with myopia of 325 degrees.

Both girls have their noses constantly in a book and reading at close range has not

helped their vision.

Mrs Goh said that on average, she has to change Wing Xuan's glasses two to three times a year because her myopia will worsen by 50 to 100 degrees every two to three months.

Last year, she was worried enough to consult an ophthalmologist at the Singapore National Eye Centre.

He told her there was nothing else wrong with Wing Xuan's eyes and that it was common among Singapore children to be very shortsighted at a tender age.

Although Mrs Goh was relieved it was nothing more serious, she felt helpless that her daughter's eyesight was getting worse.

This is a predicament faced by many parents in Singapore, where three out of 10



ST PHOTO: AZIZ HUSSIN

children start Primary 1 shortsighted.

By the time they get to Primary 6, two out of three kids cannot make out objects or text clearly at a distance.

Myopia central

Myopia or short-sightedness occurs when the lens of the eye cannot focus light rays on the light-sensitive retina and the image falls short landing in front of it. This problem is corrected through the use of lenses that increase the focal length of the eye's lens.

Singapore is the myopia capital of the world. So it is no wonder that French lens maker Essilor chose this country to unveil its new progressive and bifocal lenses for children in Asia.

No conclusive proof yet

A two-year randomised trial brings good news for parents of myopic children.

Of the 135 Chinese Canadian children who were randomly assigned to different types of spectacle lenses, those who wore prismatic bifocals – the Myopilux Max – were shown to have the least myopia progression.

The study was published in the American Medical Association's Archives Of Ophthalmology in January. One of its authors, Dr Bjorn Drobe, senior research scientist at Essilor Singapore, said that the children in the trial reported no difficulty in adapting to the new lenses.

So should parents now have their children use the new Myopilux lenses?

It may not be necessary, say eye practitioners here.

Dr Zena Lim, consultant ophthalmologist at the Singapore National Eye Centre, said that the current findings "do not warrant a change in current clinical practice", which is to treat myopia with single vision lenses.

She said: "Currently, the small and unsustained effect of using bifocal or

progressive lenses in retarding myopia progression, while not harmful, needs to be validated in larger scale studies with a longer duration of follow-up."

Dr Lim felt that there is only a selected group of children who would "certainly benefit" from these new lenses.

She pointed out that children with certain types of convergent squint, or crossed eyes, and those who have undergone childhood cataract surgery are frequently treated with bifocal lenses.

Others with high, progressive myopia who are treated with atropine eye drops may also be prescribed progressive lenses while on the treatment as they may encounter blurring of near vision.

Mr David Chong, an optometrist in private practice, also does not think that all children should automatically ditch their old glasses and switch to the new ones.

The ex-president of the Singapore Optometric Association said: "It shouldn't be the first choice for children, but should be used only under certain circumstances."

"If a six-year-old child has myopia of 600 degrees and there is a need to stop the progression fast, parents and optometrists now

have another option with the Myopilux lenses," he added.

Mr Chong said it was more important that children be fitted with the correct lenses for their myopia, are checked for other underlying eye problems and be made aware of their reading and lifestyle habits.

Dr Lee Sao Bing, medical director of Shinagawa Lasik Centre, felt that there was no harm in letting children try on the lenses.

He said that the child's comfort level with the new product is what should ultimately guide an optometrist's decision.

It may take some time before an adult or a child adapts and knows where to focus his eyes when he is using progressive or bifocal lens to view objects at varying distances.

Dr Lee said that if the child complains of headaches, neck aches or encounters falls after wearing the new lenses, he should switch back to his previous type of glasses.

In general, Dr Lim advised that parents be counselled on the "current lack of conclusive evidence of these lenses" and their possible side effects.

Joan Chew

The manufacturer says that the new lenses can slow the progression of myopia. Randomised trials of Essilor's Myopilux lenses showed that they reduced the rate of myopia progression by up to 62 per cent.

The progressive lenses, Myopilux Pro, have a gradient of increasing power from the top to the bottom of the lens, to accommodate the wearer's far, intermediate and near vision.

Myopilux Max are bifocal lenses, with the top correcting for far vision and the bottom correcting for near. A prism is added to the bottom part of the lens to reduce eye strain when the child is looking at near objects.

In general, progressive and bifocal lenses are prescribed to correct presbyopia – the inability to focus on near objects – a feature of ageing.

Made for Asian kids

At the media launch of the lenses two weeks ago, Dr Bjorn Drobe, senior research scientist at Essilor Singapore, said that when progressive lenses were first used by children 15 years ago, it was found that

they could slow myopia progression in about 30 per cent of the cases.

This could be because the lenses reduce accommodation lag, which is how much more the lens in the eyeball has to curve to bring an image into focus.

The two types of Myopilux lenses are prescribed to children according to how their eyeballs move when they look at an object.

Dr Drobe said the new lenses also take into account the features of Asian children.

For one, they have longer eyeballs than children of other ethnicities, so the centre of rotation of their eyes is further away from the eye lens and their eyeballs have to sweep over a broader area.

Dr Drobe said that Asian children also have a habit of moving their eyes when they look at something, rather than their heads. This means they would require a wider field of vision to be corrected.

The Myopilux lenses are made with a wide field of peripheral vision, so that children looking out through the sides of their glasses can still see clearly.

Mrs Goh has had her children fitted with

the Myopilux Max lenses about a month ago. They cost between \$268 and \$388, but she feels that the money would be well spent if they can slow down the progression of myopia in her daughters.

She added that the girls seemed to have adjusted to their new lenses well.

Mr David Chong, an optometrist in private practice, said he recommended the new lenses to Mrs Goh's children when he saw that even good reading habits could not halt their worsening myopia.

It is too early to tell what the impact of those lenses would be, but Mr Chong is keeping tabs on them.

Dr Drobe said that myopia progression is fastest below the age of 16. Those with a high degree of myopia also have a higher risk of getting eye disease.

For example, someone with myopia of 800 degrees has a 32 per cent risk of getting myopic retinopathy, which can lead to blindness. However, the risk is only 3 per cent for a person with 400-degree myopia.

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