

MULTIFOCAL CONTACT LENS EFFECTIVE AT TREATING MYOPIA IN KIDS

Contact lenses offer benefits beyond vision correction.

Multifocal contact lenses for children with myopia can slow the progression of nearsightedness, providing a more effective and efficient treatment option.

Several studies in the past five years have shown that soft multifocal contact lenses with a center distance design can slow the development of myopia as well as elongation of the eye.

“There have been four studies, including randomized clinical trials, and they all show a positive effect,” says Jeffrey J. Walline, O.D., Ph.D., associate dean for research at The Ohio State University and chair of the AOA’s Contact Lens & Cornea Section (CLCS). “We think [the lenses work] because they focus light in front of the periphera retina, and they focus light right on the retina, which provides people with clear vision.”

Multifocal lenses appear to be more effective than bifocal glasses and as effective as orthokeratology contact lenses. “Bifocal glasses slow the progression of myopia but only by a very small amount—in fact, they don’t provide clinically

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meaningful slowing of myopia progression,” Dr. Walline says. Orthokeratology, the process of wearing gas-permeable contact lenses at night to reshape the eye and temporarily provide clear vision without wearing glasses or contact lenses, also slows myopia progression and eye growth.

Children wearing multifocal lenses had 25 percent less myopia progression and 31 percent less axial elongation than those wearing single-vision lenses over two years, according to a 2014 double-blind randomized controlled trial of 221 Hong Kong children. The

kids were ages 8 to 13 with myopia between -1.00 and -5.00 dioptres. Other studies showed an even greater treatment effect for the myopia group as compared with the control group.

The effect of slowing myopia progression became obvious when children wore the lenses for five hours a day, and the improvement increased if they wore them for seven hours a day or more, according to the study published in the January 2014 issue of the *British Journal of Ophthalmology*. The benefit was smaller when they reached eight hours.

“Good science is showing us we have a way to suppress myopia progression [in children],” says Pamela Lowe, O.D., who practices in Niles, Illinois, and is a member of the CLCS. “With recent myopia control studies, we’re seeing some remarkable results.”

Treatment benefits and beyond

Myopia often develops between the ages of 8 and 16, Dr. Walline says. Theoretically, the earlier treatment is started, the more effective it could be, but it’s not clear yet which kids make the best



HOW TO FIT MULTIFOCAL LENSES IN CHILDREN

To properly fit multifocal contact lenses for children with myopia, Dr. Walline recommends:

1

Use the strongest add power with a center distance design in both eyes.

2

Put the distance power on each eye that you would expect based on the refractions.

3

Do an over-refraction. Children often require an additional minus power to optimize their vision.

4

At that point, if the child still doesn't see well, reduce the add power, but Jeffrey J. Walline, O.D., says most kids will be able to see clearly without doing so.

candidates. “Younger is better potentially; you might get a stronger treatment effect,” Dr. Walline says. “And kids whose myopia is progressing more quickly have the potential for more benefit.”

Doctors of optometry and parents are becoming more familiar with children wearing contact lenses in elementary school. In fact, children experience fewer complications secondary to contact lens wear than college students do. “It’s easy to train [kids] how to use these lenses, and they are quite comfortable on the eye,” Dr. Lowe says.

Contact lenses offer benefits beyond vision correction. Children often feel better about their appearance than if they were wearing glasses, and contact lenses are more convenient when playing sports or just running around with friends. These factors also make children feel better about their interactions with peers.

No contact lenses have been marketed in the U.S. specifically for myopia control in children, Dr. Walline says, but there are many doctors who fit single-vision and multifocal lenses for children. To be effective, the multifocal lenses must be a “center distance” design, he says.

“I think myopia control is something anyone with myopia should be offered,” Dr. Walline says. “Multifocals can help keep the myopia from getting worse.”

—Melanie Padgett Powers

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