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Lazy Eye News is the bi-annual newsletter of the Ohio Amblyope Registry. It is designed to highlight the services and resources available through the OAR and bring you the latest news in Amblyopia research and treatment.

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Amblyopia Treatment: Persistence Pays Off

Richard Liston, M.D.

OAR Ophthalmology Medical Director

Amblyopia is vision loss due to disuse. It is a major cause of vision loss. When detected and treated early, good vision can often be restored.

However, the treatment of amblyopia is an endurance sport. It has more in common with running a marathon than sprinting a 100-yard dash. Nobody knows this better than the parents of children with amblyopia.

Some children can see dramatic vision gains in short periods of time. In many other children, many months of treatment will be necessary to achieve the best vision possible. As the weeks stretch into months, it can be easy to lose heart.

Before parents become too discouraged, consider a few examples of the benefits of persistence.

Beth (not her real name, but a real patient in my practice) was three-and-a-half years old when her pediatrician discovered that she had poor vision in her right eye. Her vision was good (20/30) in her left eye, but very poor (20/200) in her right eye. She had amblyopia in the right eye due to a combination of strabismus (her left eye "crossed in") and an imbalance in her glasses prescription.

I prescribed glasses, told Beth's mother that amblyopia treatment would probably be necessary, and recommended a follow-up examination in several weeks. When I saw her again she was wearing her glasses faithfully, but there had been no improvement in her vision.

After discussing the options, her mother

and I decided to try patching the left eye, but Beth had different ideas. Her mother called and informed our office, "Beth won't wear her patch at all!" We recommended that Beth receive dilating drops in the left eye (to blur the vision) combined with occlusive tape over the left lens.

By her next visit (now four months after treatment began), Beth's vision had improved dramatically to 20/50. She was wearing her glasses (with the occlusive tape over the left lens) without complaint. No further dilating drops were necessary. We were on the right track!

Unfortunately, the next six months were more difficult for Beth and her family. They missed several follow-up appointments. When they did bring Beth in, they worried because she had begun peeling the occlusive tape off her glasses. Not surprisingly, her vision stopped improving.

Eventually, her parents began to understand that there was no "easy fix" for Beth's amblyopia. They had already seen much improvement, but they wanted Beth to see as well as she possibly could. They made a new commitment to be persistent in her treatment. Dilating drops were restarted.

Their persistence paid off. Over the next several months, they encouraged Beth to wear her glasses all day. They faithfully replaced the lens occlusive tape over the left eye when necessary. They administered her dilating drops.

Beth returned to my office last week. It has been 14 months since she was first diagnosed with amblyopia. She is now

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A Second Opinion Makes a Difference

Successful treatment of older children with amblyopia is possible

Paulette Schmidt, O.D., M.S.

OAD Optometry Medical Director

Mike, a fourth grader, was referred to an eye doctor after failing a vision screening at his school. After an eye examination, the doctor told his parents that Mike:

- Had amblyopia in the left eye due to unequal farsightedness in the two eyes which was worse in the left eye.
- At the age of nine years, he was too old for treatment.
- Eye glasses were not necessary.
- Had permanent vision loss in the left eye.

Mike's parents sought a second opinion. Mike's parents asked if patching therapy could be used and, if so, how would Mike be able to function in his fourth grade classroom?

Our eye examination showed that:

- Mike had normal vision in his right eye (20/15 visual acuity) but reduced vision in the left eye (20/300).
- The reduced vision in the left eye improved somewhat with glasses (20/200).
- Mike had unsteady fixation in the amblyopic eye.
- The brain was turning off the image from the amblyopic eye (suppression).
- Depth perception was not present.

Treatment included:

- Prescription glasses with shatter resistant lenses to correct farsightedness and provide the best possible vision to the amblyopic eye, and to protect the good eye.
- Patching therapy during non-school hours including eye hand coordination tasks such as "dot-to-dot" games while patching.

Results (Mike consistently wore his glasses benefiting by helpful reminders and encouragement from both parents and teachers):

- Visual acuity improved to 20/80 in the first three months.
- During the next two months, vision improved more slowly to 20/40, with periodic drops in visual acuity followed by improvements.
- Fixation steadiness of the amblyopic eye improved.
- Suppression decreased markedly.
- Depth perception approached normal levels (stereoacuity measured 40 seconds).

Over the next one and a half months, vision in the amblyopic eye improved to 20/30. To monitor the stability of Mike's vision, we stopped the therapy program and released him to a one-month progress check. At the one-month progress check:

- Vision in the amblyopic eye had decreased to 20/50.
- Slight unsteadiness of fixation had returned to the amblyopic eye.
- Intermittent suppression returned and stereoacuity worsened.

- Patching and home therapy were reactivated on a reduced schedule for two months.

At the end of two months:

- Steady fixation was achieved.
- Suppression was eliminated.
- Depth perception reached normal levels (stereoacuity 20 seconds).
- Vision in the left eye improved to 20/25.

Stable vision was documented at the one, three, and six month progress checks. Annual follow-up exams show that Mike's vision remains stable. The total treatment period was nine months and periodic visits for six months to assure no recurrence of the amblyopia or associated disorders.

Important points:

- Older children with amblyopia may respond to treatment, especially when the amblyopia is due to uncorrected refractive error.
- It may be important to seek a second opinion when told that your child's amblyopia is no longer treatable.
- Amblyopes with refractive error need to wear glasses to provide the clearest possible vision to the amblyopic eye.
- Glasses, with impact resistant lenses, prevent vision loss in the good eye due to accidents.
- Treatment for disorders that co-exist with amblyopia (unsteady fixation, suppression, reduced depth perception) minimizes recurrence of the amblyopia after patching therapy ends.
- Tapering treatment and close follow-up helps to stabilize results and minimize recurrence of the amblyopia.

Need Eye Patches?



Lower income families may qualify for additional free patches from the OAR, up to a maximum of 30 boxes.

Application forms are available at www.OhioAmblyopeRegistry.com under the "Financial Assistance" heading or by calling toll-free 1-877-808-2422.

Top Ten Referring Ophthalmologists

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|--------------------------|----------------|
| 1. Richard P. Golden, MD | Columbus, OH |
| 2. Cybil B. Cassady, MD | Columbus, OH |
| 3. Don L. Bremer, MD | Columbus, OH |
| 4. David L. Rogers, MD | Columbus, OH |
| 5. Elias Traboulsi, MD | Cleveland, OH |
| 6. Gary Rogers, MD | Columbus, OH |
| 7. Daniel Love, MD | Hamilton, OH |
| 8. Bernard Perla, MD | Willoughby, OH |
| 9. MaryLou McGregor, MD | Columbus, OH |
| 10. Richard Liston, MD | Dayton, OH |

Top Ten Referring Optometrists

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|------------------------|----------------|
| 1. Amy Keller, OD | Columbus, OH |
| 2. Moriah Chandler, OD | Columbus, OH |
| 3. DeVon Meyer, OD | Eaton, OH |
| 4. Frank D'Apolito, OD | Warren, OH |
| 5. Susan Quinn, OD | Athens, OH |
| 6. Teresa Gossard, OD | Cincinnati, OH |
| 7. Gregory Hicks, OD | Sandusky, OH |
| 8. Brian Kuhlman, OD | Cincinnati, OH |
| 9. Chad Moreschi, OD | Columbiana, OH |
| 10. Karen Fortman, OD | Lorain, OH |

Persistence...

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nearly five years old. There is no doubt that Beth's treatment was prolonged by her stubborn reluctance to wear her patch and glasses and by her missed appointments. But after each lapse, her parents have renewed their commitment to "hang in there."

Here's the good news: Beth's vision in her amblyopic right eye has improved to 20/30! This is a far cry from 20/200 at the beginning. And it's still improving! There is still a good chance that her parent's persistence will be rewarded with even better vision.

Tommy's (not his real name) amblyopia

was discovered at five-and-a-half years of age. Glasses and patching were recommended. Like Beth, he too was stubborn. He lost his glasses; he refused his patch.

Tommy was seven when he came to see me. It had been more than a year since he had any treatment. When he came to see me, his vision was 20/50 in his right eye and 20/30 in his left eye.

His parents wondered if anything else could be done. Conventional wisdom maintains that older children do not respond as well to amblyopia treatment. Even though Tommy was older, I discussed the new evidence that even older children can benefit from amblyopia treatment.

His glasses were replaced. I emphasized the importance of wearing them. Since it

was summer, he began wearing a patch over the left eye for eight hours a day. By the time school started, we were able to reduce the patching to 5 hours a day. Tommy appreciated this, since he did not have to wear his patch to school.

After nine months of treatment, Tommy's vision was improved to 20/20 in both eyes!

As these children demonstrate, treating amblyopia can be challenging for children and their patients. Recent studies have suggested treatment strategies that may be more acceptable to children can give good results. Even children who have failed earlier attempts at treatment can benefit from treatment, and many have a good result. Patience and persistence can pay off with a lifetime of good vision!

Problems with Adhesive Eye Patches?

A Patching Tip That May Prevent Painful Skin Irritation

Laura McMeans

OAR Marketing Coordinator

Dr. David Rogers, pediatric ophthalmologist at Nationwide Children's Hospital, has a safe and easy remedy for parents to try before resorting to cloth patches, which he believes are less effective at treating amblyopia. "Many of my patients who have experienced skin irritation from adhesive patches have found that applying **milk of magnesia** to the skin around the eye before applying the eye patch has prevented irritation and allowed them to continue their prescribed adhesive patching treatment," Dr. Rogers



states. "Using a cotton ball, parents should apply a thin layer of milk of magnesia to the skin around their child's eye. The adhesive patch should be applied only after the milk of magnesia has dried completely."

Dr. Rogers notes that because this is a preventive therapy only, any current skin irritation needs to be healed completely in order for this therapy to be effective.

Milk of magnesia is commonly used as a stomach antacid and laxative and is available over the counter at any pharmacy. Parents with questions or concerns, should consult their child's eye doctor.