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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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Early Detection Leads to Successful Treatment

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

OAR Optometry Medical Director

Amblyopia is reduced clearness of vision in one or both eyes that is not immediately improved by wearing glasses. Amblyopia is not due to other obvious eye anomalies. The most frequent causes of amblyopia include uncorrected refractive error (farsightedness and/or astigmatism) and strabismus (eye misalignment). Glasses can be used in treating amblyopia to align eyes if strabismus is present and to provide the clearest possible image to the amblyopic eye, essential for vision to improve. Glasses also protect the good eye from accidental injury until amblyopia is eliminated.

Undetected and untreated, amblyopia can lead to visual impairment, loss of the ability to accurately judge distances (critical in biking and driving) and occupational limitations. Further, for our youngest children, undetected and untreated amblyopia may preclude children's full development and impair productive participation in society.

The following additional facts about amblyopia emphasize the serious nature of this preventable vision disorder:

- Amblyopia occurs in as many as 1 in every 20 children.

- Among 3-year-old children, an estimated 75,000 to 200,000 have amblyopia.

- Children with amblyopia are at 16 times the risk for blindness of the good eye in comparison to children with normal vision. Therefore, eye safety protection of the good eye is critical for children with amblyopia.

Please note, vision loss due to amblyopia is not limited to children.

Amblyopia:

- Accounts for six million Americans with significant loss of vision.

- Is responsible for loss of vision in more people 45 years of age and younger than all other eye disease and



trauma combined.

- Is the leading cause of vision loss in one eye among adults aged 20-70 years.

Amblyopia is a significant cause of visual impairment with origins in childhood which, if undetected and untreated, can prevent a child's full visual development and can also adversely affect vision in later life. Adults with amblyopia are at greater risk for vision loss in the good eye. Vision loss due to amblyopia is preventable with treatment. However, before treatment can begin, children with or at risk for amblyopia must be detected. Effective detection will be the subject of future articles.

Recent Advances in Lazy Eye Treatment

Richard Liston, M.D.

OAR Ophthalmology Medical Director

Full time patching of the better-seeing eye (all waking hours) has been a mainstay of amblyopia treatment for many years. Although this patching treatment is generally very successful, children often find the recommended patching duration difficult. For example, children are often embarrassed to wear their patch in public. Also, when adhesive “skin patches” (which look like a large “Band-Aid”) are used, skin reactions may occur. Further, a child’s depth perception is reduced when their patch is in place. Although parents can often encourage their child to overcome these difficulties, patching a child’s eye for the treatment of amblyopia can be a difficult experience for the child and family.

Recent research has shown that many children with amblyopia may improve with fewer hours than were previously recommended. These alternate treatment options have shown to be nearly as effective as the previous “gold standard” treatment of full time skin adhesive patching of the better-seeing eye. These newer treatment options are summarized below. Please note that the children in the following studies were all less than 7 years of age. It is more difficult to improve the vision of older children and may require more hours of patching per day.

Moderate amblyopia (visual acuity from 20/40 to 20/80 in children less than age 7)

In children with moderate amblyopia, patching 2 hours per day is as effective as patching 6 hours per day when combined with one hour of near visual activities such as video game play while patching.

Also, daily, long-lasting dilating eye drops (atropine) instilled in the better-seeing eye are nearly as effective as daily patching. However, when compared to patching, the use of dilating eye drops may increase the chance of a decrease in visual acuity of the better-seeing, non-amblyopic eye. A recent study found that using the dilating drops only on weekends is as effective as daily administration.

Severe amblyopia (visual acuity between 20/100 and 20/400 in children less than age 7)

In children with severe amblyopia, patching 6 hours per day was found to be as effective as patching all day when the patching was combined with one hour of near visual activities.

If your child does not improve with the less intensive treatment regimens (e.g., 2 hours per day) described above, your doctor may recommend more hours of patching.

Other Recent Amblyopia Studies:

Amblyopia treatment in older children (age 7 to 17)

Successful amblyopia treatment is more likely when amblyopia is detected in early childhood (less than 7 years of age). However, a recent study of amblyopia treatment in older children (between ages 7 and 17 years) found that some improvement may occur in about half of children ages 7 to 12 years and in about a quarter of children ages 13 to 17. Please note that most of these children were left with some loss of vision in the amblyopic eye despite some improvement in their vision with treatment.

Recurrence of amblyopia after successful treatment

A recent study confirmed what doctors have long suspected: as many as 25 percent of amblyopic children whose vision was successfully improved with treatment experienced a recurrence of the amblyopia when treatment was discontinued. In children with 6 or more hours of patching daily, the recurrence rate was even higher (40 percent) when the treatment was stopped abruptly. Therefore, amblyopic children who are being patched 6 hours or more per day may benefit from the gradual reduction of patching hours per day versus stopping patching suddenly. All children who undergo amblyopia treatment should be followed closely by their eye doctor for the possibility of recurrence.

Finally, don’t forget that all the hard work is worth the effort because most children who follow their doctors’ recommended treatment are rewarded with improved vision.

Need Eye Patches?

Lower income families may qualify for 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 1-877-808-2422.



OAR is First Lazy Eye Registry in U.S.

Laura McMeans

OAR Marketing Coordinator

The State of Ohio has created the first statewide program in the United States for children with amblyopia, commonly known as lazy eye, in effort to address this widespread public health issue through prevention, good eye health promotion, and early intervention and outreach services.

“To each new registrant, the Ohio Amblyope Registry provides free information about amblyopia and its causes, free treatment supplies (eye patches) to financially eligible families and free case management services that encourage families to continue to see their eye doctors for treatment and cure of amblyopia,” said Larry Leguire, Ph.D., Executive Director of the Ohio Amblyope Registry.

Amblyopia is reduced vision in one or both eyes not improved by glasses alone and that has no obvious reason for the vision loss. It is the leading cause of vision loss in children affecting about 5

“... the Ohio Amblyope Registry provides free information..., free treatment supplies (eye patches) to financially eligible families and free case management services...”

out of every 100 children, yet often they show no obvious signs of eye trouble. The most common causes of amblyopia include misaligned eyes (strabismus), a difference in focusing ability between the eyes (anisometropia) and focusing problems such as farsightedness. When amblyopia is detected at a young age, it can usually be cured and the brain will develop normally saving the child from permanently impaired vision. “Early detection and treatment is extremely important in the prevention of a life-long disability that can limit employment opportunities and put them at risk for even greater vision loss as adults as the sight in the healthy eye begins to deteriorate later in life,” Leguire said.

In addition to free literature, free treatment supplies to eligible families and case management services, the OAR’s Web site, www.OhioAmblyopeRegistry.com, provides extensive resources on current research and treatment of amblyopia as well as a “Find an Eye Doctor” tool that allows anyone to locate a list of local registered eye doctors within Ohio.

Top Ten Referring Ophthalmologists

- | | |
|--------------------------|-------------------|
| 1. Richard P. Golden, MD | Columbus, OH |
| 2. Cybil B. Cassady, MD | Columbus, OH |
| 3. Richard Liston, MD | Dayton, OH |
| 4. Don L. Bremer, MD | Columbus, OH |
| 5. MaryLou McGregor, MD | Columbus, OH |
| 6. Gary L. Rogers, MD | Columbus, OH |
| 7. Daniel Love, MD | Hamilton, OH |
| 8. Anthony Locastro, MD | Akron, OH |
| 9. Carla Krebs, MD | Fairview Park, OH |
| 10. Elias Traboulsi, MD | Cleveland, OH |

Top Ten Referring Optometrists

- | | |
|------------------------------|-----------------|
| 1. Amy Keller, OD | Columbus, OH |
| 2. DeVon Meyer, OD | Eaton, OH |
| 3. Moriah Chandler, OD | Columbus, OH |
| 4. Sherry Crawford, OD | Athens, OH |
| 5. William Lay, OD | Westerville, OH |
| 6. Michael Chester, OD | Chillicothe, OH |
| 7. Gregory Hicks, OD | Huron, OH |
| 8. Robert Sunkle, OD | Cleveland, OH |
| 9. Todd Ragan, OD | Gallipolis, OH |
| 10. Frank D’Apolito, OD | Warren, OH |
| 10. Douglas Huff, OD | Barnesville, OH |
| 10. Arnold LaGraff, OD | Athens, OH |
| 10. Melissa Leach, OD | Barnesville, OH |
| 10. Christopher Stanwick, OD | Belpre, OH |

Congratulations and Thank You to all of our top referring eye doctors!

Parents' Role Critical in Successful Treatment

L.E. Leguire, Ph.D., M.B.A.

OAR Executive Director

For full-length article please visit www.OhioAmblyopeRegistry.com.

A recent article entitled "Why is Compliance with Patching Therapy for Amblyopia so Hard?" by Dixon-Woods and Gottlob (Arch Dis Child 2006, p491-494) found that parents must be the managers of the patching therapy and decide whether or not to follow the prescribed therapy with the associated stress of placing a patch over the child's good eye for hours at a time. Parents found patching therapy particularly tough to do in the initial treatment period and things got easier once a routine was established.

It may be important to note that in a study of patching therapy at Columbus Children's Hospital, it was found that parents, on average, patched only about 50% of the time suggested by the eye doctor! Why? This was answered by another study at Children's that showed that patching therapy for amblyopia is hard and causes

family stress and also causes psychological trauma to the child. Bottom line, patching therapy is very hard to accomplish and parents have to be committed to the therapy even when faced with a crying child and a long term commitment.

Tips For Helping Kids With Patching...

- Have kids personalize patches with markers or their favorite stickers.
- Enlist teachers, relatives, etc. to help reinforce the patching schedule
- Establish a routine
- Set up a reward program
- Keep all eye doctor appointments