



Full Eye Care

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WHAT IS AMBLYOPIA?

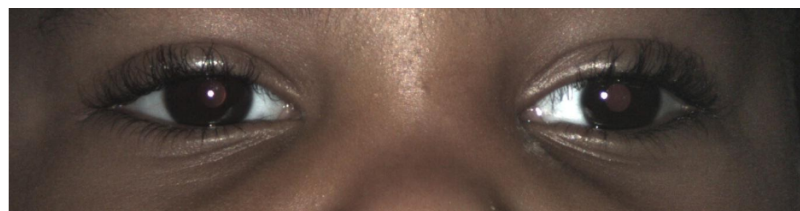
In infancy, visual acuity is estimated to be 20/400 (normal being 20/20). It is visual input in the first few months and years of life that allows the vision to continue to develop to 20/20.

Amblyopia, or “lazy eye,” is when vision in one eye does not develop as well as the other because visual input to the lazy eye is somehow blocked, preventing proper connections from the eye to brain to form.

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WHAT ARE THE CAUSES OF AMBLYOPIA

- Eyes pointing in two different directions is known as strabismus. The brain ignores the image of the eye that is not fixating, and the loss of visual input results in a lazy eye.
- Refractive error – if the prescription needed to correct one eye is much more than the other; the eye with the worse prescription can become weaker, or lazy.
- Ptosis – droopy eyelid (genetic or traumatic) worse in one eye can lead to one eye having more astigmatism and subsequent sub-optimal development.
- Media opacity – an opacity in either the lens (e.g., a congenital cataract) or the cornea (e.g., a traumatic scar) can keep that eye from developing properly.



Notice the pupillary reflex is centered in the right eye and nasally decentered in the left eye. This photo depicts exotropia, and can be a cause of strabismic amblyopia.



Notice the left upper eyelid ptosis. The eyelid margin bisects the visual axis and puts the child at risk for amblyopia.



Notice the left eye has a media opacity resulting in left amblyopia. Photo credits: University of Iowa, www.eyerounds.org

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HOW IS AMBLYOPIA DIAGNOSED?

In any child who does not have 20/20 vision in both eyes, Dr. Ali will do a full eye exam specifically looking for the conditions mentioned above.

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HOW IS AMBLYOPIA TREATED?

Initial treatment is with patching. The better seeing eye is patched, allowing all visual input to go to the "lazy" or amblyopic eye. Forcing the lazy eye to fixate improves vision. This is a slow process that takes at least 3-6 months, and many times can take longer.

Many children do not like wearing a patch, as vision using the lazy eye will be blurry. We encourage you to be as creative as you can to help your child wear a patch. For example, you can purchase decorative patches online with your child's favorite color or that have pictures of your child's favorite storybook characters on them. Another incentive can be allowing a favorite educational TV show, book, or video game only while wearing the patch.

Remember there is a very short window in life when the patch can be used to optimize vision. In adulthood, patching is not successful in bringing back vision lost due to amblyopia.

If the patch is unsuccessful, weekend atropine use has been shown to effectively treat amblyopia. Atropine 1% is administered on the weekend days in the better seeing eye which dilates the eye and blurs images at near. This encourages the use of the weaker, or lazy eye and improves function.



Photo credit: www.orthopadusa.com

For more information, please see the following resources:

1. <https://www.aaopt.org/eye-health/diseases/amblyopia-lazy-eye>
2. Pediatric Eye Disease Investigator Group. Patching vs Atropine to Treat Amblyopia in Children Aged 7 to 12 Years: A Randomized Trial. *Arch Ophthalmol.* 2008 Dec; 126(12): 1634-1642.