

Emory Eye Center News Releases

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Emory Eye Center finds eye drops to treat childhood disorder can work as well as patching the eye

(ATLANTA) A National Eye Institute (NEI) study, conducted at more than 40 sites nationwide including Emory Eye Center, has found that atropine drops, given once a day to treat amblyopia or lazy eye -- the most common cause of visual impairment in children -- work as well as the standard treatment of patching one eye. This research finding in the Amblyopia Treatment Study may lead to better compliance with treatment and improved quality of life in children with this eye disorder. These results appear in the March issue of Archives of Ophthalmology.

After six months of treatment, researchers found that the drug atropine, when placed in the unaffected eye once a day, can work as well as eye patching and may encourage better compliance. Compliance is an important factor in the success of amblyopia therapy. Treatment should be started when the child is young, since amblyopia is more effectively treated in children under seven years of age. Timely and successful treatment for amblyopia in childhood can prevent lifelong visual impairment.

"These results are encouraging because in some patients with amblyopia, the drops are an attractive alternative to patching therapy," says Scott Lambert, MD, a pediatric ophthalmologist at Emory Eye Center and an investigator in the NEI study. "The drops are certainly easier to administer than trying to keep a patch on young patients who may attend daycare or who may be allergic to the patch adhesive. Additionally, the drops are a good alternative for older children who may have a sense of stigma with a patch," he says.

Amblyopia, or lazy eye, is a condition of poor vision in an otherwise healthy eye because the brain has learned to favor the other eye. Although the eye with amblyopia looks normal, there is interference with normal visual processing that limits the development of a portion of the brain responsible for vision. The most common causes of amblyopia are misalignment of the eyes (crossed eyes) or significant differences in refractive error, such as farsightedness or nearsightedness, between the two eyes. Amblyopia usually begins in infancy or childhood. It is estimated that as many as three percent of children in the U.S. have some degree of vision impairment due to amblyopia.

Treatment for amblyopia is most effective when started in young children less than seven years old. Response to treatment in older children is much less effective. Most eye care professionals treat amblyopia by placing an opaque adhesive patch, or "eye bandage," on the skin to cover the unaffected eye. This forces the child to use the eye with amblyopia, which stimulates vision in the eye with amblyopia and helps the part of the brain that manages vision to develop more completely.

However, many children do not like the appearance of the eye patch and the accompanying social and psychological stigma and will not fully cooperate, which can lead to treatment failure. Also, patching forces a child to use an eye that has poor vision, often making compliance difficult for active children. Unless it is successfully treated in early childhood, amblyopia usually persists into adulthood, and is the most common cause of monocular (one eye) visual impairment among children and young and middle-aged adults. Consequently, it is crucial for children to comply with treatment.

The atropine eye drop works by temporarily blurring vision in the unaffected eye, thereby forcing

