The Eyes Have it: FDA-Approved Glasses for 'Lazy Eye'

By ACSH Staff — December 4, 2015

Amblyopia[2], also known as lazy eye, is a common disorder that affects about 2 percent of children. Untreated, it can lead to serious complications such as long-term vision loss. The two most common methods of early treatment are eye patches and eye drops, both of which require disciplined compliance, and are uncomfortable methods for varying reasons [3].

Researchers have established an innovative form of intervention for amblyopia through the use of electronic glasses. These Amblyz glasses, approved by the FDA as a medical device, are programmed to automatically build brain reliance on the weaker eye. Initial trials suggest this approach might be as effective as traditional methods of treatment.

Amblyopia occurs in early childhood, when the nerve pathways between the brain and eye are not developed correctly, leaving the child to favor the usage of one eye over the other. As time passes the weaker eye will begin to degenerate further, resulting in the brain adapting more poorly to nerve signals.

It is important to treat the condition during the time period when both the eyes and brain are in the process of development. Early intervention reduces the probability of blindness occurring later in life. Blocking vision in the child’s stronger eye forces the child to depend on the weaker eye, and build up the muscles necessary for better vision. This treatment involves using an eye patch to cover the eye for a number of hours per day. Eye drops that blur vision in the stronger eye can also be used. Additionally, purpose-made video games [4] have also shown promise as a means for tackling the condition using a method that children like.

The Amblyz electronic glasses work similarly to the conventional approach. The glasses are fitted with liquid crystal display [5] lenses and come with a rechargeable lithium battery. The Amblyz can be configured to block out vision in either eye for predetermined periods of time, and also has built in vision correction capability, so they can be used as an alternative to prescription lenses.

Researchers studied the efficacy of Amblyz versus traditional patching on 33 children, ages three to eight, who suffered from moderate amblyopia. Over the period of three months, one group wore
the patch for two hours per day, while the other wore Amblyz for four hours per day. At the end of the trial, both groups showed similar improvement. Regardless of which treatment they received, the children were able to see an average of two more lines on the reading chart.

The Amblyz glasses are available from eye-care professionals for around $450. Although this is costly compared to current methods, the increased comfort level will likely make children more compliant.