

Tablets and e-Readers Offer New Hope for Reading with Low Vision

Move over hand magnifiers. Tablet computers and e-readers are changing the way people with low vision read. For patients with central vision loss from conditions such as macular degeneration or diabetic retinopathy, font enlargement, or relative size magnification, and contrast enhancement are critical to improving reading performance. Traditional optical magnifiers, which were once the primary low vision aids recommended for reading, can be cumbersome, provide a reduced field of view, and may further reduce contrast. Tablets and e-readers by comparison are light-weight, portable, provide a wide field of view, and can be back-lit to afford enhanced contrast.

Results of a study examining reading speed with two different electronic readers were presented at the American Academy of Ophthalmology meeting in November 2012. The study, which was conducted at the Robert Wood Johnson Medical School in New Jersey, found that all of the 100 participants gained at least 42 words-per-minute (WPM) when using

the iPad2™ tablet on the 18-point font setting, compared with reading a print book or newspaper. A more modest gain of 12 WPM, on average, was achieved by all subjects when using the Kindle™ tablet set to 18-point font. Subject preference was correlated to degree of vision loss. Subjects with the most significant vision loss (20/50 to 20/80) preferred the iPad2, the milder cases (20/30 to 20/40) preferred the Kindle, and those with near-perfect vision preferred actual newsprint. The study's authors credit the strong word versus background contrast provided by a back-lighted screen as the major advantage for the study subjects with low vision, since it partially corrects for reduced contrast sensitivity.

With costs between \$100 and \$500, digital tablets and e-readers are now available at a fraction of the cost of traditional desktop closed circuit televisions (CCTV) and portable electronic video magnifiers. Furthermore, libraries now house collections of digital books that can be

checked out, or downloaded, at no charge. The Louisville Free Public Library, for example, maintains a collection of over 5000 digital titles, including non-fiction, mysteries, biographies, history, classics, and more.

As with any other low vision aid, the selection of the appropriate reading device should be based on the patient's level of visual impairment, contrast sensitivity, and, most importantly, individual goals. Assessment and training with e-readers and tablets is part of the comprehensive low vision rehabilitation program at the Kentucky Lions Eye Center. In addition to trying out the various available products in the office, patients can also work with a low vision occupational therapist to learn how to successfully use the proper device to achieve their reading goals.

By Guadalupe Mejia, OD

To schedule an appointment at the Kentucky Lions Eye Center, please call 502-852-5466.

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