Eccentric reading training for patients with age-related macular degeneration (AMD)

Age-related macular degeneration (AMD) is a condition that involves the progressive dysfunction and death of the macula's photoreceptors. It eventually leads to the loss of acuity and other visual functions, one of the most regretted of which is the impairment of literacy skills. The reduction in acuity with macular pathology is not exclusively a function of the fact that peripheral acuity is lower than foveal acuity. After the fovea is damaged by the disease, the ocular motor system needs to acquire a new reference area in a part of the retina where vision remains intact. This adaptation involves two independent processes: 1) the stabilization of fixation, and 2) ocular motor adaptation for searching and positioning the images of visual targets at a consistent location in peripheral retina called the preferred retinal locus (PRL). Unfortunately, in a large proportion of cases the location of the PRL is unsuitable for best reading performance. We present a new method for reading rehabilitation that involves fixation stability training and preferred retinal locus (PRL) relocation using biofeedback.

Esther Gonzales
VSRP, Toronto Western and U of T Ophthalmology