Near visual acuity for everyday activities with accommodative and monofocal intraocular lenses.

Sanders DR, Sanders ML.

Abstract

PURPOSE: To determine the levels of functional near visual acuity required for everyday social reading activities and to compare the levels to those attained with accommodative and monofocal intraocular lenses (LOLs).

METHODS: Font size equivalencies of an Early Treatment Diabetic Retinopathy Study near chart and a variety of commonly read print objects were determined and correlated to the findings of distance-corrected near vision measurements with 2 accommodative (Tetraflex, 1CU) and 1 monofocal (Acrysof MA30) IOLs.

RESULTS: The smallest print objects studied were sweetener packets with type between 20/40 (Jaeger [J] 5) and 20/50 (J6). Type in classified ads, stock quotations, and pocket bibles was 20/50 (J6), type in a telephone directory was 20/63 (J8), and type in standard newspapers, journals, and magazines was 20/80 (J9). Tested monocularly, 88% of Tetraflex, 40% of ICU, and 7% of Acrysof MA30 eyes had distance-corrected near vision sufficient to read newspaper and telephone directory print, and 63% of Tetraflex, 30% of 1CU, and 0% of Acrysof MA30 eyes could read classified ads, stock quotations, and pocket bibles, respectively. Tested binocularly after bilateral implantation, 96% of Tetraflex patients could read telephone directory print and 89% could read ads, stock quotations, and pocket bibles.

CONCLUSIONS: Functional near visual acuity is not equivalent to the bottom-line objective at 20/20 (J1) near visual acuity. No print size was found at or smaller than 20/40 (J5), indicating that a requirement of nearly perfect near visual acuity, while desirable, may not be necessary for patients' social reading needs for accommodative IOLs.