Vision related quality of life in multiple sclerosis: correlation with new measures of low and high contrast letter acuity.

METHODS: Patients in this cross sectional study were part of an ongoing investigation of visual function in MS. Patients were tested binocularly using low contrast letter acuity and Early Treatment Diabetic Retinopathy Study (ETDRS) visual acuity (VA) charts. The 25 Item National Eye Institute Visual Functioning Questionnaire (NEI-VFQ-25), 10 Item Neuro-Ophthalmic Supplement to the NEI-VFQ-25, Impact of Visual Impairment Scale and Short Form 36 Health Survey (SF-36) were administered.

RESULTS: Among 167 patients, mean age was 48 (10) years, with median Expanded Disability Status Scale (EDSS) 2.0 (range 1.0-7.5), and median binocular Snellen acuity equivalent (ETDRS charts) 20/16 (range 20/12.5 to 20/100). Reductions in vision specific HRQOL were associated with lower (worse) scores for low contrast letter acuity and VA (p<0.001, linear regression, accounting for age). Two line differences in visual function were associated, on average, with >4 point (6.7-10.9 point) worsening in the NEI-VFQ-25 composite score, reductions that are considered clinically meaningful. Scores for the 10 Item Neuro-Ophthalmic Supplement to the NEI-VFQ-25 also correlated well with visual function. Associations between reduced low contrast acuity and worse vision targeted HRQOL.
remained significant in models accounting for high contrast VA, EDSS and history of acute optic neuritis.

**CONCLUSIONS:** Low contrast letter acuity scores correlate well with HRQOL in MS. Two line differences in scores for low contrast acuity and VA reflect clinically meaningful differences in vision targeted HRQOL. Low contrast acuity testing provides information on patient reported aspects of vision, supporting use of these measures in MS clinical trials.

DOI 10.1136/jnnp.2008.165449
PubMed ID 19240050
Grant List K23 NS044997 / NS / NINDS NIH HHS / United States
K24 EY 018136 / EY / NEI NIH HHS / United States
K24 EY018136 / EY / NEI NIH HHS / United States
M01 RR000082 / RR / NCRR NIH HHS / United States
R01 EY 014993 / EY / NEI NIH HHS / United States
R01 EY014993 / EY / NEI NIH HHS / United States