

# More frequent visual field testing may lead to earlier detection of glaucoma progression

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In patients with glaucoma, frequent visual field testing may be associated with earlier detection of the condition's progression, according to a report published Online First by *Archives of Ophthalmology*, one of the JAMA/Archives journals.

According to background information in the article, [visual field](#) testing is one of the main ways of monitoring patients with glaucoma for progression. "Estimating rates of progression can help identify patients who are progressing at a faster pace and are therefore at serious risk of developing visual disability during their lifetime," write the authors. "These patients can be subjected to more [aggressive treatment](#) or more frequent follow-up." However, frequent visual testing may not be appropriate or useful for every patient. A suggestion of at least three examinations per year for achieving optimal sensitivity and specificity for detection of clinically significant rates of progression may not be supported by evidence based on real [patient data](#).

Kouros Nouri-Mahdavi, M.D., M.Sc., and colleagues from the Jules Stein Eye Institute, University of California, Los Angeles, examined data from the Advanced Glaucoma Intervention Study (AGIS). They selected 468 eyes of 381 patients ages 35 to 80 years with primary open-angle glaucoma no longer controlled by maximally tolerated medical treatment. Participants had a baseline visual field AGIS score of 16 or less, at least three years of follow-up and at least 10 visual field examinations with a reliability score of two or less. Researchers included all visual field tests performed within the first year of follow-up as well

as the last available visual field tests. In addition, they assembled a low-frequency data set by deleting, for one group, every other visual field test from the second year of follow-up onward; and a high-frequency data set for which none of the visual field tests were deleted. The researchers compared the two data sets in terms of the proportion of progressing eyes and the time to progression.

Patients were followed up for a median of nine years (the range was 3.2 to 13 years). The high-frequency data set had a median number of visual field examinations of 20; for the low-frequency data set, this median number was 12. Researchers determined that the high-frequency data set was more likely to detect progression. Improvement was also detected in some eyes. When data were censored (curtailed to account for partially unknown values) at five years, the results did not change significantly.

"In summary, we found that a twice-yearly schedule of visual field testing resulted in earlier detection of glaucoma progression compared with a yearly schedule, especially with global trend analyses," write the authors. "Validation of these findings in other patient populations would be desirable. Our results have significant health care policy implications with regard to determining the frequency of visual field testing in patients with [glaucoma](#)."

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