

# Fast Progressors in Glaucoma: Prevalence Based on Global and Central Visual Field Loss

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**PURPOSE:** To determine the prevalence of fast global and central visual field (VF) progression in individuals with glaucoma under routine care.

**DESIGN:** Observational study.

**PARTICIPANTS:** Six hundred ninety-three eyes of 461 individuals with glaucoma followed up over a median of 4.5 years.

**METHODS:** This study included (1) patients at a private ophthalmology clinic in Melbourne, Australia, and (2) individuals in 2 prospective longitudinal observational studies across 3 sites in the United States. All individuals had a diagnosis of glaucoma and were under routine care, and had performed 5 or more reliable 24-2 VF tests over a 1- to 5-year period. Ordinary least squares regression analyses were used to calculate the rate of global mean deviation (MD) change over time and the rate of the mean total deviation values of the 12 test locations within the central 10° region (MTD10) for each eye.

**MAIN OUTCOME MEASURES:** Prevalence of progression based on the rate of MD and the MTD10 change across various fixed cutoffs and cutoffs based on the estimated normal distribution (from the positive slopes) .

**RESULTS:** Based on the MD and the MTD10, 12.5% and 11.7% of the eyes, respectively, exhibited a rate of change that was less than -1.0 dB/year (being a rate that typically is defined as "fast progression" for MD

values) , and 29.0% of the eyes showed a change of less than -0.5 dB/year on MTD10. Furthermore, 12.7% and 9.1% of the eyes exhibited a rate of change that exceeded the 1% cutoff of the estimated normal distribution MD and the MTD10 values, respectively.

**CONCLUSIONS:** This study found that approximately 1 in 8 eyes with glaucoma receiving routine care showed fast progression based on global MD values ( $< -1.0$  dB/year) and that nearly 1 in 3 eyes showed a  $< -0.5$  dB/year decline centrally. These findings highlight the clinical importance of assessing progressive central VF loss and reinforce the need for new therapies to prevent functional disability in a notable proportion of individuals who continue to exhibit fast progression.

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Ophthalmology. 2023 May;130(5) :462-468. doi: 10.1016/j.ophtha.2023.01.008. Epub 2023 Jan 21.

PMID: 36693593 PMCID: PMC10121866 (available on 2024-05-01) DOI: 10.1016/j.ophtha.2023.01.008