

Title: Comparison of the Timeliness of Diagnosis and Treatment Of Strabismus Based On Race and Preferred Language

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Introduction: Strabismus can lead to permanent vision loss if not identified and treated promptly in children. In the United States, racial disparities in eye care access and utilization exist, and higher rates of visual impairment have been found among racial and ethnic minorities. We investigated the effect of race, ethnicity, and preferred language on the timeliness of diagnosis and treatment, and rate of amblyopia.

Methods: We conducted a retrospective chart review of pediatric patients who underwent strabismus surgery at our institution from 2016 to 2019. Data included demographic information (race, ethnicity, language preference, family history of strabismus), dates of diagnosis and surgery, and presence of amblyopia. Statistical analyses compared timeliness of diagnosis and treatment, as well as rates of amblyopia, across racial/ethnic and language groups.

Results: The cohort included 585 pediatric patients with a mean age at diagnosis of 4.4 years (± 3.8 years), and the mean time from diagnosis to surgery was 1.2 years (± 1.6 years). There were significant differences in age at diagnosis and age at surgery by race and ethnicity ($p=0.023$ for both). In particular, non-White children had significantly later ages at diagnosis and surgery compared to White children ($p=0.048$ and $p=0.004$, respectively). Patients from non-English-speaking households were diagnosed ($p=0.041$) and treated ($p=0.011$) later than English-speaking patients. However, time to surgery and rates of amblyopia did not differ significantly between groups. Family history of strabismus was not associated with earlier diagnosis or treatment.

Conclusions: African American and non-English-speaking children experience delays in strabismus diagnosis and treatment, though amblyopia rates were similar across groups. These findings highlight the need for interventions to address racial and language barriers in pediatric ophthalmology to improve equity in eye care access and outcomes.