

## Prevalence and Clinical Characteristics of Adult Strabismus

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**Purpose:** Strabismus is a condition in which the eyes are misaligned causing double vision. While it primarily affects pediatric patients, adults may also present with strabismus due to various etiologies, but the occurrence of these are not well-established. This study aims to elucidate the prevalence of adult strabismus and its clinical risk factors.

**Methods:** This retrospective study reviewed charts of 1705 adult patient seen by the Indiana University School of Medicine Department of Ophthalmology between June 2016 and October 2020 for potential strabismus. Exclusion criteria included no diagnosis of strabismus or diplopia (n=42), not an adult patient (n=3), no charts available for review (n=105), and personal relation with a patient (n=3). Patient demographic, co-morbidity, ophthalmologic risk factor, and strabismus characteristic data was collected. Prevalence was calculated for each subclassification of strabismus, and clinical characteristics were discovered through calculation of odds ratios (OR).

**Results:** 1551 patient charts were included. The prevalence of esotropia (ET), exotropia (XT), and hypertropia (HT) was found to be 42.41%, 43.8%, and 44.04%, respectively. Combined vertical and horizontal strabismus was seen in 29.91% of patients. Patients 65 years and older had increased odds of having ET and HT (OR 1.67, 95% confidence interval (CI) (1.35, 2.05); OR 1.79, CI (1.45, 2.20)) but lower odds of having XT than their younger counterparts (OR 0.40, CI (0.32, 0.50)). Women had reduced odds of having ET compared to men (OR 0.63, CI (0.51,0.78)). Patients with low visual acuity (logMAR $\geq$ 1) had much lower odds of having ET and HT (OR 0.43, CI (0.24, 0.78); OR 0.06, CI (0.02, 0.20)) but over four times greater odds of having XT (OR 4.34, CI (2.41, 7.84)). Hypertension, diabetes, and hyperlipidemia also affected the odds of having strabismus.

**Conclusion:** Adult strabismus remains a poorly understood condition; further research is necessary to facilitate individualization of care.