

**ABSTRACT TITLE**

**TITLE:** Quality Improvement in the Ophthalmic Care of Patients with Down Syndrome through a Comprehensive, Center-Based Model

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**Study Group:**

**ABSTRACT BODY:**

**Purpose:** A Down Syndrome Center coordinates comprehensive, multi-specialty care at a large referral pediatric hospital. The purpose of this study was to evaluate the incidence of ophthalmic abnormalities in this large population of Down Syndrome patients, the clinical features of nasolacrimal duct obstruction and their surgical management, and the success of organizing combined surgical procedures with the purpose of minimizing exposure to general anesthesia.

**Methods:** A retrospective review of the electronic billing system to include all of the patients with Down Syndrome who were seen by a single ophthalmology provider between 2006-2010. The billed ophthalmic diagnoses were enumerated. The medical records of patients with a surgical diagnosis were reviewed with focus on the number of surgical cases that were combined versus single, as well as nasolacrimal system anomalies encountered.

**Results:** In n=322 patients, the no. of patients coded as having strabismus was 28.9% (93, 84% esotropia, 16% exotropia, 3.4% hypertropia), of whom 37% required surgery. 1.9% (6) had cataract, 3 of whom required surgery. 8.1% (26) had nystagmus. 9.9% (32) had amblyopia. 1 patient had glaucoma. 26.4% (85) had nasolacrimal duct obstruction, of which 36% had surgery. Nasolacrimal system anomalies were nearly universal, as 77% required inferior turbinate in-fracture, 52% required balloon dilation or stenting, and 23% required punctoplasty. Eight patients had combined strabismus and otolaryngological procedures, while 25 cases were strabismus only. Fourteen patients had combined nasolacrimal and otolaryngological procedures, while 18 cases were nasolacrimal only. There were 4 cases in which 2 separate surgeries occurred within 6 months of each other.

**Conclusions:** First, patients with Down Syndrome are at much higher risk than the general population for strabismus and resultant amblyopia and a system for prompt referral is important for maximal visual development. Second, the nasolacrimal system of Down Syndrome patients is usually anomalous and required a more aggressive surgical algorithm. Third, a comprehensive, center-based model seems to maximize combined surgical procedures which is important in minimizing the number of exposures to general anesthesia.

(No Image Selected)

**Commercial Relationship(s) Disclosure:**

Daniel Hammer: Commercial Relationship: Code N (No Commercial Relationship)

Susan Culican: Commercial Relationship: Code N (No Commercial Relationship)

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