



**Paper #0112**

**Healthcare utilization for injury in cataract surgery patients**

**Carolyn De Coster**

**Abstract:**

**Purpose:** Although visual impairment has been associated with falls, fractures and other injuries, the relationship between cataract surgery and injuries is unclear. This study assesses whether persons waiting for cataract surgery are at increased risk of requiring healthcare services for an injury compared to a control group, and if so, whether the risk changes after cataract surgery.

**Methods:** This is a retrospective case/control study of first-eye cataract surgery recipients in 1999/2000 in Manitoba, Canada. Healthcare administrative data and cataract waiting list registry data were the data sources. Cataract surgery recipients were age-sex-region matched 3:1 with controls. The outcome measure was a diagnosis of injury identified using ICD-9-CM codes in the physician or hospital claims. Data were analyzed for two years before and after cataract surgery. (For cases with both eyes operated on, the post-surgery period was after the second eye surgery.) Multivariate regression models were run to adjust for potential confounders such as burden of illness, presence of diabetes, stroke or dementia, number of different medications and use of psychoactive medications.

**Results:** There were 3811 cases and 11,359 controls. Cases were found to be much more likely to have a history of stroke, diabetes or dementia, and were more likely to be prescribed multiple medications or a psychoactive drug. After adjusting for comorbidities and pharmaceutical use, cases had a significantly higher probability of an injury than controls before surgery (0.2784 vs. 0.2538,  $\chi^2 = 5.01$ ,  $p = .03$ ). This decreased significantly after surgery to 0.2333 ( $\chi^2 = 18.05$ ,  $p < .0001$ ). After surgery the adjusted probability of injury was lower for cases (0.2333) than controls (0.2385), though this difference was not significant. The adjusted odds of having an injury increased by 3.2% per additional week of waiting.

**Conclusion:** Cataract patients have a significantly increased risk of injury compared to controls before surgery, but their risk decreases to that of controls following surgery. Given that cataract patients also bear a much heavier burden of illness, including conditions that are associated with a higher risk of falls and injuries, the imperative of performing cataract surgery without delay becomes even more pressing.



**Paper #0114**

**Acute Post-operative Endophthalmitis in a High Volume Eye Hospital in Rural South India**

**Ralf Buhrmann, Peter Kertes, Vandana Parnandi, Chandra Sankurathri**

**Abstract:**

**Background and Rationale:** Endophthalmitis is a rare but devastating complication of intraocular surgery. It occurs most commonly following cataract surgery, with most patients presenting 3-12 days post-operatively. The Sri Kiran Institute of Ophthalmology (SKIO) is a charitable organization that is a major provider of eye care for over 5 million people in rural Andhra Pradesh, India. Since its inception in 1993, over 100,000 surgeries have been performed. The purpose of this study was to determine the rate of endophthalmitis at SKIO and to try to identify the factors that contribute to the observed low rates of complications.

**Methods:** Computerized records of cataract surgeries performed at SKIO between the years 2003-2005 were analyzed for cases of acute post-operative endophthalmitis (within 6 weeks of cataract surgery). Variables such as age, residence, presence of Type 2 diabetes and hypertension comprised the case definition. The preferred approach to cataract surgery was small incision sutureless extracapsular cataract surgery which made up 30,992/32,490 or 95.4% of the cases. The operative procedure typically took less than 3 minutes to complete and as many as 232 cataract surgeries have been done in 1 day in 2 operating rooms. Phacoemulsification (245 cases, or 0.8%) and intracapsular cataract extraction made up the remainder (204 or 0.6%). All but 9 cases had implantation of a posterior chamber intraocular lens.

**Results:** Between the years 2003-2005, 32,490 cataract surgeries were performed at SKIO. Six week follow-up was available for 30,542/30,992 or 98.5%. There were 13 cases of post-operative endophthalmitis at SKIO which translates to an overall rate of 0.04%. The visual outcomes for those eyes ranged from restoration of 20/20 eyesight to only hand movement and light perception.

**Conclusions:** Despite the high patient volume and high rates of cataract blindness, the staff at SKIO have managed to achieve remarkably low rates of endophthalmitis post-cataract surgery. We believe that it can serve as a model for the delivery of high quality, safe, and efficient eye care in the developing world to help combat the overwhelming global burden of treatable blindness.



**Paper #0148**

**Waiting for cataract surgery in Quebec: What has changed between 1999 and 2006?**

**Marie-Josée Aubin, Hélène Boisjoly, Robin Bruen, Simon Couture, Fawzia Djafari, Jacques Gresset, Annie Laporte, Jonathan Matteau**

**Abstract:**

**Purpose:** The last two decades have seen a dramatic decrease in the visual acuity (VA) threshold as indication for cataract surgery: from 6/60 (1.0 logMAR) or better in 1982 to 6/12 (0.3 logMAR) or better in 2000 (Setty R, 2000). This decreasing surgical threshold combined with the population dynamics (27% predicted increase in the population aged 65 and over between 2001 and 2011), means that more patients are to be enlisted for cataract surgery. Other factors influencing wait times (WT) include patient demand and access to operating room (OR) time. Purpose: To compare WT for cataract surgery, VA surgical threshold and cataract surgical rates (CSR) between 1999 and 2006.

**Methods:** Comparative prospective study of patients enlisted for first-eye cataract surgery at Maisonneuve-Rosemont Hospital (MRH), Montreal, in 1999 and in 2006. 594 patients (507 in 1999 and 85 in 2006) underwent a detailed visual exam including VA (logMAR) within four weeks prior to surgery. Functional measures of cataract severity were obtained using the VF-14 and the Cataract Symptom Score (CSS) questionnaires. WT (days) were obtained from the surgical waiting list. The CSR (cataracts operated per million population per year) were also calculated for the population pool in the catchment area of MRH (0.5 million population).

**Results:** WT decreased from a mean of 181 days (approximately 6 months) in 1999 to 119 days (approximately 4 months) in 2006 ( $p < 0.05$ ). The VA threshold for cataract surgery decreased from 0.57 logMAR (6/24) in 1999 to 0.42 logMAR (6/15) in 2006 ( $p < 0.05$ ). Functional measures of cataract severity also reflected this decrease in surgical threshold with a better score on both the VF-14 and the CSS in 2006 (V-14 74.77; CSS 4.9) compared to 1999 (VF-14 64.66; CSS 5.7) ( $p < 0.05$ ). The CSR increased from 3174 (1587 cataracts operated/0.5 million population/year) in 1999 to 7776 (3888 cataracts operated/0.5 million population/year) in 2006 ( $p < 0.05$ ).

**Conclusion:** Although there has been a greater patient load, driven both by the aging of the population and the decreased VA threshold, the cataract surgical output more than doubled with the opening of an OR specially dedicated to cataract surgery, reducing WT for cataract surgery to 4 months. Care should be taken in the selection of patients for cataract surgery to avoid putting pressure on the system.