



Leigha,
SickKids patient

ADVANCING VISIONARY RESEARCH

Brandan's Eye Research Foundation
2023 Progress Report

SickKids
VS

A NEW LENS ON DISEASE

Your generosity at work

Children's eyes undergo significant growth and development, making their health care needs distinct from those of adults. Research specifically focused on paediatric patients is crucial to developing treatment that is effective and tailored to each child's needs. Your support is enabling this important research, and we are pleased to provide you with updates below:

Outcomes of 20 vs 23-gauge vitrectomy in congenital cataract surgery

During cataract surgery in infants, the removal of the lens is accompanied by anterior vitrectomy. An anterior vitrectomy is a surgical procedure that removes part of the vitreous humour, the jelly-like substance located behind the lens. This creates a clear path for light to enter the eye after surgery and minimizes the number of procedures required to restore vision.

In the past, larger (20-gauge) instruments were used for the entire procedure. With advances in surgical technology, smaller and more precise (23-gauge) instruments were introduced.

SickKids researchers conducted a retrospective chart review to study the safety and effectiveness of these new instruments. It compared surgical outcomes of patients that had the 20-gauge (2009–13) against patients who had the 23-gauge (2014–19) used for their cataract surgery. They found the newer instruments had similar vision outcomes without any adverse side effects. The smaller 23-gauge instruments have now replaced the older instruments used in paediatric cataract removal surgery.

Rise in the incidence of severe paediatric blepharokeratoconjunctivitis during the COVID-19 pandemic¹

Blepharokeratoconjunctivitis (BKC) is a chronic inflammatory disease of the cornea, conjunctiva and eyelid margin. As a result, early detection of BKC is crucial in preventing the need for surgical intervention and vision loss.

A new study at SickKids looked at the incidence of BKC over the past 10 years. They found that the number of BKC cases almost tripled after the COVID-19 pandemic.

They postulated several reasons for this including: a six per cent increase in the population, a decrease in referrals to the clinic at the start of the pandemic due to families not wanting to come into the city centre, and other pandemic-related dietary and lifestyle changes, like the mandatory wearing of masks. (When wearing a mask, bacteria-filled air from the mouth is blown out of the top of the mask and onto the surface of the eye and eyelids.)

These findings are offering new insights into BKC and are also corroborated in other publications on the COVID-19 pandemic and ocular diseases.

¹Barbara R, Khalili S, Maguire B, Mireskandari K, Ali A. Rise in the incidence of severe pediatric blepharokeratoconjunctivitis during the COVID-19 pandemic. *J AAPOS*. 2023 Aug;27(4):216-219. doi: 10.1016/j.jaapos.2023.05.003. Epub 2023 Jun 24. PMID: 37356472.