



Minnesota Lions Vision Foundation
5M5 Cabinet Report
March 18, 2024

MLVF Directors:

The 3rd MLVF Board of Directors meeting for this fiscal year was held virtual on March 2, 2024.

Leadership Change:

I am very pleased to share that Silvia Orengo-Nania, MD, will assume the role of head of the Department of Ophthalmology and Visual Neurosciences on July 29, 2024.

Dr. Orengo-Nania brings outstanding experience in administration, education, and clinical practice, and we look forward to her joining the Department and our leadership team.

I would also like to thank Dr. Erik Van Kuijk for his contributions to the Minnesota Lions Vision Foundation Board over the past 13 years. Dr. Van Kuijk will continue to lead the Department of Ophthalmology and Visual Neurosciences through most of July, and will then continue in the role of professor, clinician, and researcher within the department until his full retirement on December 2, 2024. Please join me in thanking him for all his hard work over the years.

Minnesota Lions Eyeglass Recycling Center:

Lion Bob Thompson and his MNLERC team attended 10 Mid-winter conventions and collected used eyeglasses. They continue collecting, sorting, and distributing used eyeglasses to those in need all over the world!

- MLERC has collected, sorted, packed, and delivered over 225,000 pairs of eyeglasses to the Recycling Center in Rosholt, WI since September 2023. They estimate another 150,000 pairs of eyeglasses to be sorted, packed, and delivered to the Recycling Center soon.
- Lion Bob and his crew are looking for volunteers to help sort and pack used eyeglasses.

Dr Hou research updates:

1) **Kerify** - the finalized name of our software for evaluating processed donor corneal tissue prior to transplantation, is moving forward towards commercialization. The Eye Bank Association of American (EBAA) has invested \$300,000 to support our collaborative efforts with ADCIS (French software development company). We are currently working on building in quality control mechanisms into the software and transferring the software to the cloud for global access. We are presenting additional research at the EBAA annual meeting that will validate the use of the software across different cameras and hardwares that various eye banks may use. This should help drive further adoption of the software across the eye banking community. We believe this software will significantly improve eye banks' ability to discriminate between suitable and non-suitable donor corneas for transplantation. This will improve patient outcomes from corneal transplantation and also reduce the waste of donor corneal tissue by eye banks. We are also testing the software as part of a sub study of a large multicenter center clinical trial. The results will help us establish what threshold we should rule in or rule out tissue.



2) **Modified CalcienAM assay.** Our lab continues to develop novel methods to access donor tissue quality when it has been preloaded in an injector. Currently the vast majority of partial thickness corneal transplants are done using patient-ready or so-called pre-loaded donor tissue. This means the donor corneas are already processed and loaded into a specialized injector prior to shipping to surgeons. This means surgeons can immediately use the tissue as soon as they get it. This saves time and avoids any chance for error in loading at the time of surgery. The problem is, there are numerous injectors and ways to store and ship pre-loaded injectors. But almost none of them are validated for safety. As such, we have no idea what is the best option for patients. Our new technology uses a non-toxic vital dye to assess the viability of the cells on the donor cornea while it is in the injector. This lets us accurately interrogate which injectors and setups are safe and which are not. We are presenting our research at the EBAA annual meeting. We believe that other eye banks will seek our services to validate their injectors and setups in the near future.

3) **Descemet's membrane for treatment of partial limbal stem cell deficiency.** Our lab was the first to report that Descemet's membrane (DM) could support the growth of limbal stem cells in culture. Since then, we have pioneered DM corneal onlays, which is a type of corneal transplant where DM (without any cells) is transplanted on the surface of the cornea rather than the back of the cornea. This onlay does not reject and promotes the health of the corneal epithelium in various diseases, especially partial limbal stem cell deficiency. Over 60 of these transplants have been performed around the country by more than a dozen surgeons. We are also currently in prospective clinical trials at the University to test the membrane in patients with Congenital Aniridia (a congenital disease associated with limbal stem cell deficiency). This study is funded by Aniridia Foundation International and BrightStart Therapeutics, and will help definitively establish the safety and efficacy of this procedure in aniridia/limbal stem cell deficiency.

Lions Gift of Sight:

- **LifeSource Partnership:** At the end of 2023, Lions Gift of Sight and LifeSource signed a new five-year contract. This contract ends, formally, the prior four years of contention. The contract names Lions Gift of Sight as the exclusive eye recovery partner in the State of Minnesota. Hospitals will begin to come online in the first quarter of 2024. The contract is for an initial term of five years. Lions Gift of Sight looks forward to a new book (not chapter) in our history in this new partnership with LifeSource.
- **Donate Life Day:** Donate Life Day at the Capitol was on February 28th. In partnership with Lions Gift of Sight, LifeSource coordinated interactions with legislators at the capitol to advocate for donation. In addition, Lions Gift of Sight has been invited to speak at the Rally in the Rotunda at the end of the day. Please celebrate this display of partnership, as the last time (due to COVID) there was a Donate Life Day at the Capitol our two organizations were crashing each other's parties.
- **Food and Drug Administration:** Late in 2023 the Food and Drug Administration (FDA) showed up at Lions Gift of Sight doors for our regular (and unscheduled) inspection. LGS prides itself on always being Inspection Ready. This mantra was rewarded with, indeed, being inspection ready. The FDA did not have any major (possible shutdown) or minor (must respond to) findings. This is a tribute to the entire staff at LGS and especially to the Quality Systems team.
- **Donation Partnerships:** Lions Gift of Sight introduced two new revenue streams in 2023. The first is a partnership with the Anatomy Bequest Program (ABP) at the University of Minnesota. LGS takes all referrals for ABP for overnight and on weekends. In a partnership with Lions Eye Bank of Wisconsin (LEBW), LGS is recovering tissue in Western Wisconsin and returning the tissue, via Lions couriers, to the eye bank in Madison. Both efforts will diversify revenue



streams to LGS and, equally important, will allow ABP and LEBW, through partnership with LGS, to better serve donation in throughout their service areas.

Vision Foundation Projects

- ***Lions Eye Surgery Center:*** Completed over 2400 surgical cases in 2023.
- ***Macular Degeneration Center:*** Purchase of a new state-of-the-art Agilent 1260 Infinity LCII HPLC system that will increase the ability of Dr. Lobo's laboratory to maintain a strong research program focused on the role of vitamin A transporters and retinoids in vision. The Department of Ophthalmology and Visual Neurosciences has already provided financial support that was used to convert space in the Lobo laboratory into a dark room, specifically for the isolation of retinoids from eyes and non-ocular tissues under dark/dim-light safe conditions. The new Agilent HPLC system will be housed in this dark room, so to avoid the current issues of sample transport across campus to another laboratory for HPLC analysis.
- ***Lions Research building:***
New surgical simulator arrived and has been installed. Supported by LCI matching Grant. Retina module upgrade has also been added with Minnesota Lions Surgical fund. Five excellent residents matched to start July 1st, 2024.
- ***Lions Children's Eye Clinic:***
An example of how the foundation impacts healthcare across the state. Minnesota Lions directed donation for the Children's eye clinic -the Pediatric Ophthalmology Fund. Combined two gift donations to purchase a piece of diagnostic equipment (estimated cost of 100k) that will help to diagnose and treat diseases of the cornea for children.

Upcoming Events/Projects:

- April 6, 2024 – MLVF Board Meeting, St Cloud, VFW
- April 20, 2024 - MLVF Annual Meeting, Winnipeg, Canada
- July 26-27, 2024 - MLVF Training and Board Meeting, LGS and Roseville Double Tree

Closing remarks:

- The MLVF's Directors are available to all clubs for informational visits whether it be virtual or in person.
- Please let the MLVF Directors know of any vision projects and vision-related fundraisers being done by clubs of 5M-5.

Thank you for your continued support of the Minnesota Lions Vision Foundation. Without the support of all the great lions of 5M5 the Minnesota Lions Vision Foundation could not do all the great things we do.

PDG Rob Hed & PDG Kristine Morin

5M5 Directors - Minnesota Lions Vision Foundation