

EYECURE.

NEWS FROM THE QUEENSLAND EYE INSTITUTE FOUNDATION
ISSUE 17 | SPRING 2022

WELCOME TO THE LATEST EDITION OF EYECURE FOR SPRING 2022

Welcome to the latest edition of Eyecure, the newsletter of the Queensland Eye Institute Foundation.

In this issue, you will read about Korbin who had surgery to treat strabismus; large angle exotropia meaning his eyes would drift outward. You will also read about Associate Professor Anthony Kwan who recently performed innovative sight-saving surgery for wet age-related macular degeneration (AMD) on the very first patient in Queensland.

In this issue, we also would like to introduce you to QEIF's new board members; Professor Jeff Dunn AO and Jane Prentice.

Thank you for your continued support, we could not continue our research without you.

Mark Radford, CEO.



A NEW GRANT HOPES TO BRING IMPROVED RARE EYE CANCER TREATMENT

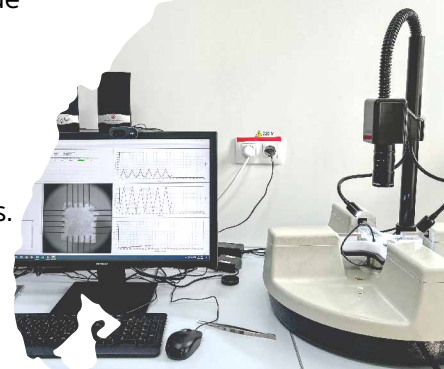


A world-first international registry for vitreoretinal lymphoma can now be expanded with a new grant, co-funded by Flinders Foundation and QEIF. Vitreoretinal lymphoma is difficult to diagnose and often progresses rapidly to involve the brain with a very low survival rate.

▶ SEE PAGE 7

NEW COLLABORATION BETWEEN QEI AND UMFST OF TÂRGU MURES, ROMANIA

Working with a leading university in Romania, QEI is focused on a number of projects looking at human tissue and their role in novel therapeutic strategies proposed by our scientists for various pathological conditions.




▶ SEE PAGE 7

FIRST IN QLD, GROUND BREAKING SURGERY ON PATIENT WITH WET AGE-RELATED MACULAR DEGENERATION

Associate Professor Anthony Kwan has recently performed innovative sight-saving surgery for wet age-related macular degeneration (AMD) on the very first patient in Queensland. This first patient in Queensland (the 14th in Australia) underwent a new type of surgery, the implantation of a prolonged delivery device, to treat wet AMD.



 Surgery on patient with wet age-related macular degeneration

Wet AMD is an advanced form of age-related macular degeneration that can cause rapid and severe vision loss and, eventually, blindness. A growth factor called vascular endothelial growth factor (VEGF), a protein produced by cells that regulates the formation of blood vessels, is thought to be involved in the formation and leakiness of abnormal blood vessels. These abnormal blood vessels leak blood or fluid in the macula (the central part of the retina responsible for sharp, detailed central vision) and form scars that cause central vision to get worse and may result in permanent blind spots in people with wet AMD. Anti-VEGF is a medicine that blocks the growth factor VEGF and can slow the growth of and leakage from the abnormal blood vessels in the eye and may prevent or slow vision loss.

Currently, the primary treatment for wet AMD is regular injections of anti-VEGF directly into the eye. These injections are administered indefinitely at regular intervals (commonly between four to twelve weekly depending on the disease activities). The frequency of these injections is time-consuming and poses an emotional and financial burden to the patients and their families.

Following successful international clinical trials, the Food and Drug Administration (FDA) in the USA approved a new treatment for wet AMD in 2021. This new treatment is the surgical implantation of an implant (the Port Delivery System, PDS) that can slowly release the anti-VEGF medication within the eye (over 24 to 36 weeks). This device is not approved for clinical use in Australia at present. This trial at QEI is focused on assessing the good or bad effects of anti-VEGF delivered by this PDS on participants with wet AMD. The implant is slightly longer than a grain of rice. The eye implant will be covered by the thin, transparent mucosa covering the eye (conjunctiva) and is usually not visible to others as the upper eyelid hides it. The implant, intended to remain life-long in the eye unless removed for medical reasons, releases anti-VEGF continuously over a long period into the eye, and our study doctor can refill it. There are now 73 sites worldwide, including Australia, Italy, Brazil, Austria, Belgium, the UK, Spain, Taiwan, Switzerland and France, which offer this treatment on a clinical trial basis.

QEI is the only site in Queensland able to offer this device to specialised selected trial patients. The selected trial patient will undergo a surgical implantation procedure in the operating room in this research project. The PDS implant is pre-filled with anti-VEGF medication, which slowly releases the medication inside the eye. Part of the trial is determining the optimum duration between refills. Therefore, participants will have the implant refilled at either 6 or 9-month intervals.

It has been over a month since the implantation procedure. Associate Professor Kwan states, *"The operation has been a success, and the patient is doing exceptionally well with no complication. The patient's vision is maintained, and he is happy to be part of this ground breaking treatment. We are looking forward to recruiting more patients in the coming months."*

 Associate Professor Anthony Kwan



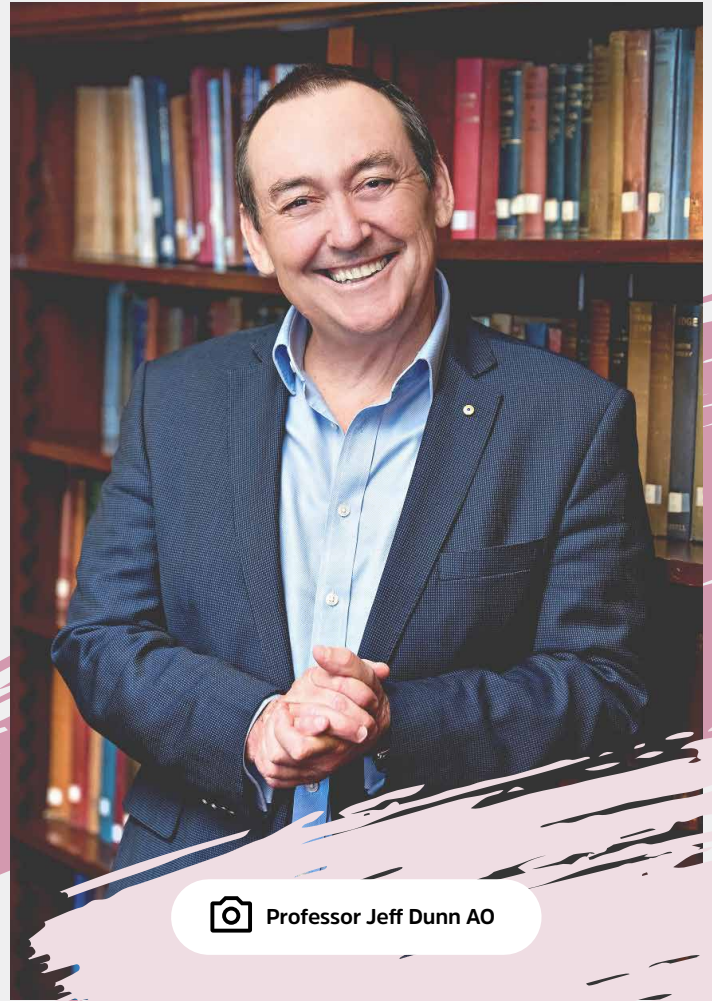
PROFESSOR JEFF DUNN & JANE PRENTICE HAVE JOINED THE QEIF BOARD

We are thrilled to welcome Professor Jeff Dunn AO and Jane Prentice to the QEIF Board.

Jeff Dunn is the Chief of Mission and Head of Research at the Prostate Cancer Foundation of Australia. His work in cancer control spans 30 years, in which time he has dedicated his career to the development of strategies that underpin cancer survival and improve awareness of the disease with a special focus on the social and behavioural aspects of cancer and has over 200 publications, including peer reviewed manuscripts, chapters, books and reports.

In 2014 Jeff was appointed an Officer in the Order of Australia for distinguished service to medical administration through leadership of cancer control organisations and promotion of innovative and integrated cancer care programmes. Jeff had been a member of the QEIF Board before moving to Sydney in 2019.

Professor Mark Radford said *"We are delighted that Jeff has agreed to return to the QEIF Board. We have a long history together and Jeff will make an important contribution with his knowledge and expertise in the area of medical research."*



 Professor Jeff Dunn AO



 Jane Prentice

Jane Prentice is a former Australian politician who served as a member of the House of Representatives from 2010 to 2019, representing the Division of Ryan in Queensland. Jane previously served on the Brisbane City Council from 2000 to 2010. Jane is currently President of both Tennis Queensland and Scouts Queensland, as well as being a Patron of a number of not-for-profit organisations in Queensland. "Jane comes to the Board with a wealth of experience in dealing with government and understanding the needs of the community. We are looking forward to working with her and benefiting from her extensive knowledge," said Professor Mark Radford.

We value Jeff and Jane's extensive experience in helping achieve our purpose to save sight.

HEROES DO NOT ALWAYS WEAR CAPES

Earlier this year, a local primary school had a hero day to raise money for the flood appeal throughout Queensland. Many students would have dressed up as Batman or Spider-Man. However, for 6-year-old Korbin, his idea of a hero was someone who didn't wear a cape; Dr Elias Kehdi at Queensland Eye Institute (QEI) who saved his sight.

Strabismus is a condition where the eyes are not properly aligned and cannot look at the same place at the same time. Detected when he was 2 years old, Korbin had a form of strabismus called large angle exotropia meaning his eyes would drift out. Without treatment strabismus can become worse.

Signs of strabismus

It may surprise some to learn that strabismus is the most common eye disorder in children with about three and five per cent of Australians affected by the condition.

The main signs usually are the misalignment of the eyes. The two most common types are convergent (inward turn of the eye) and divergent (outward turn of the eye). Dr Elias Kehdi, Paediatric Ophthalmologist at QEI explains, *"There other abnormal eye turns but they are less common. One misconception is that both eyes turn at the same instance but in most situations this does not happen. One of the eyes must be focusing at the visual task at hand and thus pointing straight."*

Dr Kehdi adds, *"A fair number of children I see have a divergent squint i.e. exotropia. This is when one or both eyes may turn outward, the more common of the horizontal strabismus conditions. In some cases the family may not notice the child's turned eye especially if they have some degree of control over the turn. However this may still affect their performance with tasks such as studying."*

"Dr Kehdi fixed my eyes and helps heaps of kids, can I be him as a hero?"

- KORBIN



Dr Elias Kehdi

Grace and the family are forever grateful to Dr Kehdi and the team. *“Korbin is healthy, intelligent and has a great understanding of how everybody is born differently and that his eyes make him perfect in his own way! He excels in school receiving the Sacred Heart Excellence Award for Mathematics and Physical Education for Grade 1. He also plays rugby league and has the kindest heart, as parents we couldn’t be prouder.”*

“Nothing we say or do will ever express our gratitude and appreciation to Dr Elias Kehdi and the team at Queensland Eye Institute!”

Surgery

Korbin had surgery in May 2021 on both eyes which was essential given the seriousness of his condition. Korbin’s surgery required operating on the muscles that control the horizontal position of the eyes. This involved weakening and strengthening certain muscles to reposition the eyes.

Korbin’s mother Grace is full of praise, *“Dr Elias Kehdi made surgery a breeze for Korbin and eased any worries and concerns we had. Korbin idolises Dr Kehdi and wants to be an eye surgeon for kids when he grows up so he can help other kids just like Dr Kehdi has helped him!”*

Post-surgery

With this type of surgery, the average success rate is around 85%. Dr Kehdi explains, *“Although we operate on the normal healthy eye muscles, in most instances the issue lies with the abnormal control of these muscles. Unfortunately, there are no treatments for that thus the root cause is not eliminated. Therefore post-surgery, there will always be a risk the eyes could drift again throughout the patient’s life. However, further surgery can be arranged if required.”*



GETTING TO KNOW DR REBECCA COX, CLINICAL OPTOMETRIST & RESEARCH OPTOMETRIST AT QEI

Clinical Assistants and Optometrists play a key role at the Queensland Eye Institute Clinic. We sat down with Bec to find out more about her passion for eyes and how she started her career in Optometry.

Bec had always intended to work in the health industry as some of her family were allied health practitioners but had not thought of Optometry until Year 12. For her, Optometry had a good mixture of biology, physics, chemistry and mathematics which she then studied at university. After graduation, Bec went on to work at an optometry clinic then taught and completed a PhD at QUT before joining QEI at the start of last year.

The Eyes

Being an Optometrist, it makes sense that Bec is intrigued by the eyes. As she explains, *"I am interested in how eyes work and it all fits together. Everything has to be so precise to work well, from the cornea at the front of the eye to the retina at the back of the eye. It is all so complex for something so small as the eye."*

Day to day at the Clinic

"The work is varied, on some days I assist at the clinic, checking patients' vision and prescriptions, and taking scans and measurements before they meet with the Ophthalmologists. On other days I have a dedicated Optometry clinic where I review patients who have recently undergone anterior segment and refractive surgeries such as LASIK or Photorefractive keratectomy (PRK). I also perform dry eye treatments including IPL and REXON. Clinical research and analysis is also part of my role which I enjoy."

Optometrist & Clinical Assistant

"I really like the variety and making a difference in my current role. Working in an Optometry practice I was not as involved with the management of patients' with complex eye conditions as I am at QEI where I can now make a bigger, lasting impact on peoples' vision. I also

enjoy the aspect of clinical research; reviewing surgical outcomes and analysing the safety and efficacy of new procedures."

Outside of work

When Bec isn't looking after the eyes of her patients, she focuses on playing both netball and indoor soccer socially. Keen to be a bit more creative in her spare time, Bec has just started pottery classes.

Having recently had laser surgery at QEI, Bec is no longer short-sighted and as a result does not her contacts for playing sport which is *"brilliant"* she says.



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Dr Rebecca Cox

A NEW GRANT HOPES TO BRING IMPROVED RARE EYE CANCER TREATMENT

In February, Flinders University and the Queensland Eye Institute Foundation (QEIF) formed a new partnership to create a world-first international registry for vitreoretinal lymphoma. Today, with a new grant, co-funded by Flinders Foundation and QEIF, this registry can be expanded.

Collecting medical information can mean improvements in treatments of this rare eye cancer. Using the registry will allow the researchers to understand how this cancer affects the vision and the outcomes of different types of treatment. Ten countries are already contributing to the project.

Vitreoretinal lymphoma, affecting less than one Australian per million, is difficult to diagnose and often progresses rapidly to involve the brain. Current treatment approaches vary and include chemotherapy, radiotherapy and stem cell transplantation, but there remains a very low survival rate.

Professor of Eye and Vision Health at Flinders University, Professor Justine Smith explains,



 Professor Justine Smith and Professor Mark Radford

"This is an ambitious and important project and we are very grateful for the generous funding. It is not easy to run clinical trials for rare diseases and we know a registry approach will be highly effective in giving us an understanding of how doctors are diagnosing and managing the condition around the world. In building the registry, we hope to establish the most effective therapies for those who are affected by vitreoretinal lymphoma."

Professor Mark Radford from QEIF adds, "We are proud of this collaboration with the Flinders Foundation. We are really excited to be working with Professor Justine Smith and her team on this important project. Improved patient outcomes is something we are all working towards. Registries like this make a huge difference to patient care."

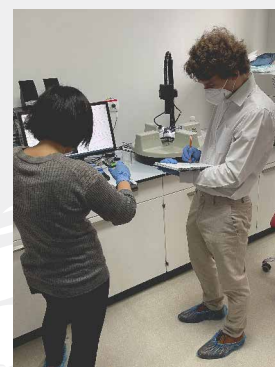
NEW COLLABORATION BETWEEN QEI AND THE GEORGE E. PALADE UNIVERSITY OF MEDICINE, PHARMACY, SCIENCE AND TECHNOLOGY

Queensland Eye Institute is excited by our recent collaboration with the George E. Palade University of Medicine, Pharmacy, Science and Technology (UMFST) of Târgu Mures in Romania. Professor Traian Chirila, Professor Mark Radford, and Dr. Shuko Suzuki from QEI, working with a team of UMFST researchers (including two PhD students), have started on a series of projects that focus on understanding human tissue and their role in novel therapeutic strategies proposed by our scientists for various pathological conditions.

As part of the agreement, QEI has set up a laboratory, equipped with scientific instrumentation dedicated entirely to these projects. The equipment included the BioTester

5000 (CellScale, Canada), the only tool allowing biaxial evaluation of biological tissues.

We look forward to bringing you further news about this partnership in upcoming editions.



LAST SEEN

As you may remember, Last Seen 2019 was held at GOMA and raised funds for QEI's research projects. We are excited to announce we will launch Last Seen 2023 next autumn. The exhibition will partner ten vision-impaired individuals with ten influential artists and ten composers, to depict their last significant memory before experiencing vision loss.

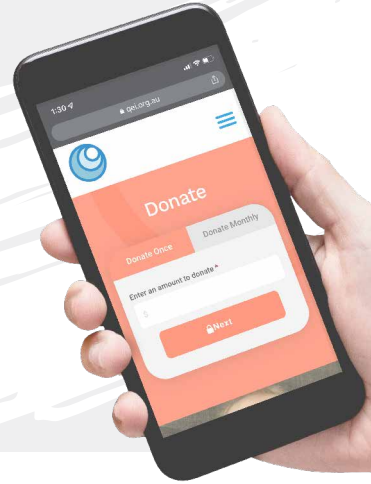
The art and compositions will form the exhibition complemented by tactile art, immersive soundscapes (3D audio sounds) as well as a voice-activated guide accessed through smart devices.

More details to follow at lastseen.com.au

TAX APPEAL

In our tax appeal this year we highlighted the importance of continued research into low vision and vision impairment. With this research, we are focused on improving the understanding of genetic eye conditions and the phenotypes that may benefit from advances in gene therapy and new surgical techniques in order to save sight.

Thank you for your generous donations.



Your donation is gratefully appreciated.

Your donation today will help the QEI Foundation save sight through its research, education and clinical care. Help us save money by donating online. Visit www.qei.org.au or use the camera on your phone to scan the QR code to donate through the website or call **07 3239 5050**.



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Please debit my card: Visa Mastercard Amex



Bill code: **30585**
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