

MEDIA STATEMENT

16 March 2021

New children's clinic to revolutionise diabetic eye treatment

A new eye clinic to treat children and adolescents will help to reduce blindness in Western Australian children with diabetes.

The clinic is a collaboration between the Lions Eye Institute and Perth Children's Hospital, and is part of the new *Perron Paediatric Retinopathy Initiative*, generously supported by the Stan Perron Charitable Foundation.

The *Perron Paediatric Retinopathy Initiative* includes the new clinic and a significant research project that will facilitate the development of new therapies to reverse sight-threatening complications due to diabetic retinopathy.

The clinic, which opened in February 2021, is based at the Lions Eye Institute in Nedlands. With referrals from Perth Children's Hospital Departments of Endocrinology and Diabetes, and Ophthalmology, Lions Eye Institute ophthalmologists Associate Professor Chandra Balaratnasingam and Dr Antony Clark will screen, assess and treat children for juvenile diabetic retinopathy complications.

The clinic will improve the availability of accessible world-class ophthalmologic services to periodically screen and treat eye disease in children and adolescents with diabetes in Western Australia.

"Type 1 and type 2 diabetes are amongst the most common causes of severe and irreversible vision loss in Australian children," said Professor Elizabeth Davis, Head of the Department of Endocrinology and Diabetes at PCH. "Australia has a relatively high rate of type 1 diabetes, and on average seven new cases are diagnosed every day. Type 1 diabetes is most commonly diagnosed in 10-14 year olds, with a rate in this age group that is 3.6 times higher than in people aged over 25.ⁱ The incidence of type 1 diabetes is projected to rise at an average rate of almost three per cent per year."

Diabetic retinopathy occurs when small blood vessels inside the retina, at the back of the eye, become damaged as a result of diabetes, impacting sight and often causing blindness.

Associate Professor Balaratnasingam said vision loss due to diabetes had profound physical, psychological and social consequences in children and young people.

"When you consider that almost 100 per cent of children with type 1 diabetes will develop diabetic retinopathy in their lifetime, this is a very serious issue for these young people and their families," he said. "Screening children at regular intervals will enable us to detect the onset of complications at the earliest stages, prior to the occurrence of irreversible structural and functional injury."

"Detecting the earliest changes to the retinal circulation due to diabetic retinopathy is the key to avoiding irreversible vision loss in children. Understanding changes to the retina through robust screening programs also provides an opportunity to develop better diagnostic techniques and new treatments to prevent disease progression," Associate Professor Balaratnasingam said.

He said the eye is a window to other parts of the body, and clinicians and researchers intend to use state of the art retinal imaging equipment and techniques to predict kidney and brain complications in diabetes, as well as address gaps in knowledge for conditions such as hypertension, stroke and vasculitis.

The *Perron Paediatric Retinopathy Initiative* will:

- Provide a world-class, dynamic weekly clinic for screening children for juvenile diabetic retinopathy, in collaboration with Perth Children’s Hospital;
- Reduce vision loss and improve visual outcomes through the timely use of systemic and ocular treatments;
- Reduce the financial burden of paediatric diabetes by defining a more precise method to identify patients who are at high risk or low risk of vision loss, enabling clinicians to individualise screening strategies;
- Develop a collaboration between the Lions Eye Institute, Perth Children’s Hospital and Harry Perkins Institute of Medical Research to implement a centre of excellence for paediatric retinal vascular diseases; and
- Expand the understanding of retinal vascular and central nervous system physiology to assist other medical specialties.

The Managing Director of the Lions Eye Institute, Professor Bill Morgan, said the *Perron Paediatric Retinopathy Initiative* represented the Institute’s first major clinical-research platform for children’s eye health.

“The program will build on the work of our specialist paediatric clinician, Dr Antony Clark, as well as the ground-breaking work our research team has undertaken in this field for more than 30 years,” Professor Morgan said.

“Our retinal imaging capability through Optical Coherence Tomography Angiography is unparalleled, and our research group has been an international pioneer in much of the work in this field.”

In addition to Associate Professor Balaratnasingam and Dr Clark, the *Perron Paediatric Retinopathy Initiative* will be spearheaded by the Institute’s Professor Dao-Yi Yu AO, an internationally renowned expert in the field of retinal vascular diseases. Professor Yu has received nearly 30 years of continuous NHMRC research funding in the field of retinal vascular diseases. An important objective of the *Perron Paediatric Retinopathy Initiative* is to translate knowledge gained from decades of lab-based research by Professor Yu’s team to the real-world setting to improve the quality of eye care in children with diabetes.

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ⁱ <https://www.aihw.gov.au/reports/diabetes/diabetes/contents/how-many-australians-have-diabetes/type-1-diabetes>