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Glaucoma Awareness Month

Eye-watering Research

Support Groups



GLAUCOMA The thief of sight

Glaucoma Awareness Month March 2023

Glaucoma Awareness Month

Glaucoma is the thief you don't see, and every year it's robbing kiwis of the things they love their ability to drive, work, read, play sport or watch TV - through loss of vision. Crucially, glaucoma often goes undetected, meaning they may not realise the loss until it's too late.

March is Glaucoma Awareness Month, and Glaucoma NZ is encouraging Kiwis 40+ to help us catch the glaucoma thief, and reduce preventable blindness in NZ, by having an eye health check with their local optometrist.

Glaucoma is one of the leading causes of irreversible blindness. Most people experience no symptoms in the early stages and the only way to know if you have it is to have an eye health test. Vision loss from glaucoma can't be reversed with treatment, but with early identification the vision you have can be preserved.

Head to glaucoma.org.nz to learn more about the campaign, share campaign resources, and donate to save sight for thousands of Kiwi's. Glaucoma NZ supports important glaucoma research, education and support programmes so people diagnosed with glaucoma, and their families, have the knowledge to manage their disease and live well.

If you have family or friends who are 40 or over, remind them to get regular eye health checks and together let's catch the sneak thief of sight and eliminate blindness from glaucoma.

Emma's Story

Emma (34) was a 14-year-old teenager living in Christchurch when her mum noticed that she was squinting while watching TV, despite wearing glasses, and convinced her to get her eyes checked by an optometrist. At this eye assessment it was a shock hear from the optometrist that she had glaucoma as she hadn't noticed any changes to her vision and thought that glaucoma only affected older people. She feared that she would go blind and would not be able to travel the world as she dreamed of doing.

Living with glaucoma as a teenager posed Emma a number of challenges, such as having to use eye drops 3-4 times a day at school causing her to get bright, red eyes, and managing the logistics of taking her eye drops wherever she went, including to friends' houses.



Emma was determined not to let glaucoma steal her travel dreams, so from her late teens to mid-twenties she lived abroad in London and Saudi Arabia and travelled frequently. Travel with glaucoma was not without its challenges, such as attaining travel health insurance, travelling through airports with medication, and storing her eye drops in the fridge.



Later in life she moved to Auckland, where she now resides, and has navigated further challenges relating to relationships, family, and pregnancy - all of which she was able to find little information on but found support through open conversations with her ophthalmologist on these topics.

Emma wants to share her story with others facing a glaucoma diagnosis to help them to realise that they are not alone, glaucoma is not just an older person's disease, and that glaucoma does come with challenges, but you can overcome them. She would also like to spread the message to Kiwis that it's important to get your eyes checked at an optometrist if you notice any changes to your vision, whatever your age, or if you are at a higher risk of developing glaucoma (if you are aged 40 or older or have a family history of glaucoma).

Glaucoma has given Emma a real appreciation for what she has in life and can see and do; "I don't have to live with the fear that I'm going to go blind anymore - I know that glaucoma is manageable, and I can live a good life and build relationships. You can see everything and live well with glaucoma, and that's definitely my plan", she says.

Research so good it makes your eyes water!



Glaucoma is the leading cause of irreversible blindness worldwide, affecting more than 70 million people. The most well-recognised risk factor for glaucoma is elevated eye pressure or intraocular pressure

(IOP). The IOP is the balance between production and drainage of aqueous fluid, which is the fluid that bathes the internal structures of the eye. The aqueous fluid is produced by the ciliary body, a tidy gland inside the eye. The fluid subsequently is removed from the eye by being absorbed and drained by the trabecular meshwork which is microscopic sponge that absorbs the fluid and passes the fluid the canal of Schlemm which removes the fluid from the eye. Increased IOP is thought to be the result of increased resistance to drainage in the trabecular meshwork.

Treatments for glaucoma are aimed at lowering IOP. Treatment options include eye drops, and laser treatment or surgery. The most common treatment utilised by glaucoma patients are eyedrops which work by lowering IOP. Patients with glaucoma are likely to receive chronic treatments over a longer duration.

Most glaucoma eyedrops are comprised of two components: the active ingredient and a preservative. Benzalkonium chloride (BAK), a quaternary ammonium molecule, is the most commonly used ophthalmic preservative. There is a recognised harm from the preservative in the eye drops. The most common being ocular surface irritation. However, there is also preliminary evidence that the preservatives in the eye drops may cause inflammation and damage to the trabecular meshwork. As a result, preservative free eye drops have been developed and are readily available in most developed countries. New Zealand is one of the only countries in which there is no access to preservative free eye drops because it is not accepted by PHARMAC that patients receive a significant benefit.

"This is an exciting and interesting area of glaucoma research, and I am so fortunate to be part of a department that aims to provide optimal patient care with the most innovative and up-to-date research evidence."

- Gabriela Bantas

This study aims to investigate the effects of preservatives on the trabecular meshwork cells. Our hypothesis is that the preservative in eye drops causes significant damage to the cells in the trabecular meshwork that lead to toxic changes and may impair the ability of the trabecular meshwork to work adequately in glaucoma leading to exacerbation of the disease. Our team will be the first to compare the effect of the most commonly used glaucoma drops and their preservative on the trabecular meshwork.

Gabriela is completing a Masters Degree in the department of Ophthalmology at the University of Auckland. She is passionate about research that improves the current treatment management or processes that will enhance the patient experience and health outcomes.

Ian Richardson - My Journey with Glaucoma

My journey with Glaucoma started in 2005 when we were living in Wellington. I had not had my eyes tested for 5 years as the existing glasses were still good, so it was a huge shock when my Optometrist said that I had a big problem, I had glaucoma. This amazed me as there were no indications or symptoms that I had lost some of my sight.

I was even more surprised when the referral to an Ophthalmologist confirmed that the glaucoma was quite advanced. Initially, he prescribed one eye drop; however, I used three different drops as time passed. After some time, my eyes became misshapen and were very red and watery. The specialist suggested I stop using one drop at a time for a week, then start using it again and repeating this for each drop for several months before it was decided that the preservative caused the irritation in the drops. I had some laser treatment and cataracts removed in both eyes, keeping my pressures low and acceptable.

In 2015, shortly after moving to Tauranga, my Glaucoma worsened, and I was prohibited from driving at night. The eye specialist recommended I use one eyedrop, Latanoprost, which has a preservative. I was initially reluctant as I remembered how unpleasant it was when I had problems with the preservative; however, it has assisted me in maintaining low eye pressure. The eye drops have not been a problem to date. Having previously had a problem with the preservative in eye drops, I would be very keen to use Latanoprost without preservative, which I understand is not funded in New Zealand but is available in many other countries. Judy and I were excited to learn that Glaucoma NZ supports Gabriela's research project. We have decided to assist in funding this project as we hope New Zealanders will have access to preservative-free glaucoma treatments.



Article by Ian Richardson.

You can help make a difference like lan and Judy, by funding research to advance new technologies and glaucoma treatments. Please donate today via our website, the enclosed donation form, or contact Pippa **0800 452 826** or **pippa@glaucoma.org.nz**

Nicotinamide Research Update

In this article by Dr Flora Hui, we see the importance of continued research funding as she shares an exciting development to her team's initial six-month trial of nicotinamide in humans.



Glaucoma involves the gradual loss of the nerve cells in the eye – the retinal ganglion cells – which provide communication between the eye and the brain so we can see.

"Retinal ganglion cells use a lot of energy, they're always on until you turn them off," says Pete Williams, an associate professor in neurobiology at the Karolinska Institute in Sweden.

Dr Williams is part of an international team that found people with glaucoma show a progressive loss and dysfunction of mitochondria in the eye.

Mitochondria are the energy powerhouses in our retinal ganglion cells.

For mitochondria to generate energy, they need nicotinamide adenine dinucleotide (NAD), an essential molecule for life on Earth that is found in all living cells.

Dr Williams and his team found that as we got older, our eyes create less NAD, leaving the retinal ganglion cells potentially starved of energy. He wondered whether the decline in NAD might make these cells more vulnerable to injury as we age, and be one of the drivers in developing glaucoma, aside from eye pressure.

"So I asked the very simple question ... could we simply put more NAD back into the system and prevent these retinal ganglion cells from dying during glaucoma?"

He tested the hypothesis by supplementing the diet of mice (genetically predisposed to glaucoma) with a type of vitamin B3, which nerve cells use to produce NAD.

Dr Williams and his team found that nicotinamide supplementation prevented a lot of the nerve damage in the mice that would typically appear with glaucoma.

At the Centre of Eye Research Australia, my team led the first clinical trial of nicotinamide in humans, with results showing that it had the potential to boost the health of retinal ganglion cells to slow down vision loss in glaucoma.

But we are now starting a two-year clinical trial, which, when completed, should allow us to determine whether nicotinamide can slow down glaucoma progression, and should be incorporated into standard clinical care.

If nicotinamide is shown to work, it could be the first treatment that directly targets the health of the retinal ganglion cells.

Dr Flora Hui is an optometrist clinician scientist and research fellow at the University of Melbourne and the Centre for Eye Research Australia (CERA). She presented her research at the Glaucoma NZ Professional Education Symposium 2022.

Mayor Jamie Cleine's Story

Jamie Cleine, the 45-year-old Mayor of Buller District Council, counts himself as lucky that he had some great advice to get his eyes tested, as otherwise he could be facing a different future.

When Jamie first had difficulty reading his text messages and experienced headaches in July this year, his initial thought was to head to a pharmacy to buy reading glasses, but a colleague recommended that he had his vision assessed by an optometrist instead. So, while wandering through a shopping mall with a friend, he passed a Specsavers and decided to book an eye health check. At this appointment he was shocked to receive the news from the optometrist that he had suspected glaucoma.

A diagnosis of glaucoma in both eyes was later confirmed in August by his ophthalmologist, and despite having no earlier signs of glaucoma other than his recent symptoms, his glaucoma was at an acute stage. This diagnosis also coincided with a state of emergency in the Buller district due to flooding, so it was a difficult time for such a diagnosis and to face fears of going blind. Jamie's glaucoma is now well managed through his eye drops and he wears prescription glasses to aid his close-range vision. Thanks to this treatment, the pressure in his eye is reducing, and he says that the main day-today impact of his glaucoma is remembering to apply his eye drops during his busy day as Mayor, a treatment he will likely require for the rest of his life.

Jamie's decision to have an eye exam was a life-changing one, as he reflects that if his glaucoma wasn't detected when it was, he may have continued undiagnosed and lost vision.

His advice for Kiwis turning 40 is;

"it's important to add an eye health check to the list of what you need to get checked when you turn 40 – it's simple and non-invasive, but if you put off getting your vision checked for too long then it may be too late."



Glaucoma Groups growing thanks to you.

Your continued support means that this year people living with glaucoma in Taupo and Central Wellington will be able to meet, to share information and build understanding on how to manage their glaucoma. It is well documented that increased knowledge will help to minimise anxiety, build confidence to discuss your eye health and make decisions with your eye specialists. With regular donations, and willing volunteers, it is our intention to extend the Glaucoma Groups to other regions in New Zealand this year.

If you would like to attend a group, or require more information, please ring Karon and we will put you in touch with your local facilitator. We are extremely grateful to these wonderful volunteers for their donation of time and energy and the difference they make in the lives of others living with glaucoma.

WARKWORTH

Third Monday of the month - 1.30pm Summerset Falls, Warkworth

AUCKLAND NORTH

Third Saturday of the month, 10 - 11:30am, Glenfield Community Centre, Glenfield

AUCKLAND CENTRAL

Last Saturday of the month. 2-3.30pm Epsom Community Centre, Gillies Ave.

HAMILTON

Fourth Saturday of the month, 10 – 11.30am Settlement Centre, Claudelands, Hamilton

TAUPŌ

Second Saturday of the month 10 - 11.30am, Ross Gordon Optometrists- 66 Ruapehu St, Taupo

NEW PLYMOUTH

First Thursday of the month, 10 - 11am, Muffin Break, Centre City Shopping Centre.

KAPITI

Last Friday of every alternate month 10 – 11.30am Card Room, Kapiti Village, Paraparaumu

WELLINGTON CENTRAL

Second Saturday of the month, 10.30am – 12.00pm Penthouse Cinema and Café, Brooklyn.

TIMARU

First Saturday of the month 10 - 11.30am (Friday 10th March an exception) Caroline Bay Lounge, Timaru

CHRISTCHURCH CENTRAL

Second Saturday of the month at alternate venues - 10.00 - 11.30am, Mary Potter Hospice or Mona Vale Homestead.

Glaucoma is a registered charitable trust and receives no government funding. Our education resources and support programmes are free with the generous support of Glaucoma NZ members. All donations of \$5 and over are tax deductible.

Charities No. CC21421

Prefer to receive your newsletter by email?

Please provide an email address to Karon at **0800 452 826** or **info@glaucoma.org.nz**

Always check with your health professional before trying alternative remedies or supplements.