

## You made it happen!

On behalf of the board of trustees, we would like to thank our donors and supporters for their ongoing support of our success in 2018.

Dear Readers,

With your help, glaucoma awareness in New Zealand is at an all time high of 75%. As a charity, Glaucoma New Zealand has just concluded the financial year and we would like to share some of our successes with you.

Thanks to the generous support of optometrists and ophthalmologists we have extended our **community education programme** outside Auckland, with over 37 glaucoma awareness presentations nationwide reaching more than **1700 guests**.

GNZ also joined the **Eye Health Coalition** of New Zealand, which is made up of service providers, consumer groups and industry organisations. GNZ attended Parliamentary meetings to advocate for better access for all New Zealanders when it comes to eye health.

We successfully held the **third annual Glaucoma Symposium** where over 120 eye health professionals gathered for glaucoma education.

**Six support groups** were launched in five regions across New Zealand and are all run by local volunteers. The groups create a great sense of

community, with over **80 members** meeting each month.

We attended **11 public meetings** nationwide with over **450 guests**. In the past twelve months we have received over **600 referrals** from eye care health professionals enabling GNZ to provide free education and support to those people living with glaucoma via email, our toll free support line 0800 452 826 and sending out valuable information via our membership packs.

Our redesigned **Eyelights** newsletter has over **10,000 subscriptions** and still receives positive feedback that it is a valuable resource to readers like yourself.

**According to a recent survey, 48% of New Zealanders still don't know that glaucoma has no symptoms in the early stages, so we must not be complacent. There is still so much more sight saving work to do, and we value your continued donations and support.**

We have exciting projects on the horizon in 2019, and we look forward to working with you and our supporters to continue our



mission to eliminate blindness from glaucoma and provide support to those with glaucoma and their families.

Kind Regards,

*Ana Lee*

General Manager

### Eyelights insights:

Genetic Variants	pg 2
Cannabis eye drops	pg 3
GNZ welcomes Dr Chee	pg 4
Support groups	pg 5
For new readers	pg 5
Eyedrop side effects	pg 6
How to help Glaucoma NZ	pg 8

# Genetic Variants Identify Glaucoma risk with 75% Accuracy

A new study has led to the discovery of 133 genetic variants that could help predict the risk a person has of developing glaucoma.

Researchers from King's College London, in collaboration with University College London (UCL), Massachusetts Eye and Ear, and the Harvard School of Medicine, analysed 140,000 people using data from the UK Biobank and The European Prospective Investigation of Cancer, Norfolk (EPIC-Norfolk).

“Knowing someone’s genetic risk profile might allow us to predict what risk of glaucoma he or she carries so that in the future we can focus scarce healthcare resources on the most at risk,” lead author Dr Pirro Hysi from King’s College said.

Eye pressure readings were taken from more than 140,000 people and then compared with a DNA analysis of each patient to assess how likely it was that they would develop the condition.

By comparing the pressure test results with a genetic analysis of the many common, small variations in DNA that contribute a tiny amount to overall eye pressure, the team was able to identify 133 genetic variants in the DNA of those who had high



pressure readings, and so were at highest risk of developing the condition.

The genetic variations were able to predict whether someone might develop glaucoma with 75% accuracy.

“With this new knowledge, we are now more able to predict the risk of an individual developing glaucoma. The predictive genetic markers could be measured as early as birth, even though glaucoma develops later in adulthood,” study co-author Dr Anthony Khawaja said.

“These results help us to better understand the previously unknown mechanisms that cause this damaging disease. By understanding

how glaucoma develops we can, in time, get ahead of the curve of the condition and support both those living with the disease and those who may develop it.”

The researchers said the study demonstrated the power of large datasets in helping identify important genetic risk factors, while adding that the findings could pave the way for genetic-based screening programs, which would provide early diagnosis and medical intervention.

The findings were published in Nature Genetics.

*This article is republished courtesy of Insightnews.com.au.*

# Cannabis eye drops could treat glaucoma during sleep

Cannabinoid-based eye drops could one day be used to treat glaucoma patients while they sleep, according to research emanating from the University of British Columbia.

The medicated hydrogel eye drops are filled with thousands of nanoparticles containing cannabigerolic acid (CBGA), and are designed to be applied before sleep, where it is said they form a lens on the eye. The nanoparticles then slowly dissolve during the night and penetrate the cornea, allowing the medication to reach the back of the eye.

The formula was tested on donated pig corneas, where it was found to absorb rapidly and reach the back of the eye. According to the researchers, previous studies have shown that cannabinoids like CBGA can be effective in relieving glaucoma symptoms, but no cannabis-based eye drops have been developed because cannabinoids don't easily dissolve in water.

However, the researchers were able to overcome this issue via the development of their hydrogel formula.

“By suspending CBGA in a nanoparticle-hydrogel composite, we have developed what we believe is the first cannabinoid-based eye drops that effectively penetrate through the eye to treat glaucoma,”



study co-author Mr Syed Haider Kamal said.

“This composite could also potentially be used for other drugs designed to treat eye disorders like infections or macular degeneration.”

Researchers are now working to scale up the hydrogel production and

develop more anti-glaucoma cannabinoid molecules, using genetically engineered microbes. The study was published in the journal *Drug Delivery & Translational Research*.

*This article is republished courtesy of [Insightnews.com.au](https://www.insightnews.com.au).*

**Editor's note:** In addition to the above article, Chair of Glaucoma New Zealand and Ophthalmologist, Professor Helen Danesh-Meyer states, “It has been known for decades that cannabis can lower intraocular pressure. However, despite numerous experiments it has not been possible to produce a cannabinoid eye drop that penetrates the eye without doing damage. Also, the use of marijuana only has a transient effect on lowering eye pressure and therefore does not practically have a role in glaucoma treatment.”

# GNZ welcomes Dr Kaasandra Chee as a new trustee of the Glaucoma NZ board.

“I am excited to join the Glaucoma NZ Board as I believe that together we can make a difference for people with sight threatening eye disease. My background is in scientific research and the not-for-profit sector. I have a PhD in Biological Sciences and researched the molecular causes of cataract. My postdoctoral research was focused on ocular wound healing. I commenced a

new scientific longitudinal study that ran in conjunction with the well-known Dunedin Longitudinal Study. I have worked in the not-for-profit sector for the last 8 years. I worked in the United Kingdom for the Cheltenham Science Festival with prestigious and young scientists from the UK and Europe. I am currently working as Fundraising and Marketing Manager for Tauranga



Dr Kaasandra Chee

Riding for the Disabled that assists individuals of differing ability achieve their physical and mental goals through physiotherapy using horses. These experiences will enable me to make a positive difference to the community that Glaucoma NZ serves.”

## For New Readers

To those of you who have joined Glaucoma NZ since the last issue of Eyclights, we welcome you!

For your information here are some basic facts about glaucoma:

- People of all ages can get glaucoma.
- There are different types of glaucoma, but they all involve damage to the optic nerve, the nerve of sight, which is at the back of the eye.
- Glaucoma is not curable. If you have glaucoma it must be monitored for the rest of your life.
- A family history of glaucoma means you are at much greater risk of developing glaucoma.
- Current treatments for glaucoma aim to lower eye pressure.
- Medication in eye drops can have side effects on other parts of your body. Tell your eye specialist if you notice any change in your general well-being since you started the eye drops.
- If you have glaucoma tell your relatives, especially those close relatives like sisters, brothers and adult children. They have an increased risk of developing glaucoma so advise them to have an eye examination.



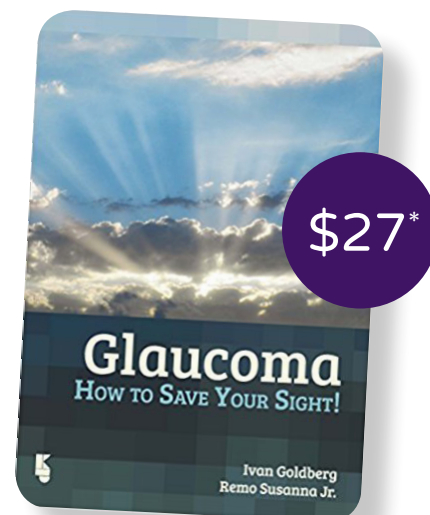
# Glaucoma: How to Save Your Sight

Purchasing the newly released 'Glaucoma: How to save your sight' book will be a valuable resource for yourself and your friends and family in further understanding glaucoma. Also 50% of the book sale price will

go to help Glaucoma New Zealand continue their sight saving work.

To purchase your copy please go to [www.glaucoma.org.nz/booksale](http://www.glaucoma.org.nz/booksale). Alternatively you can call us on 0800 452 826 or email us at [info@glaucoma.org.nz](mailto:info@glaucoma.org.nz)

"With this book we wish to enlighten our readers with quality information to minimise visual disability from glaucoma," Professor Ivan Goldberg.



\*additional cost of \$5 for postage and courier

## Support Groups

A special thank you to all our volunteers who give up their valuable time to run our support groups. We invite you to attend our next support group meetings.

Location	Date	Time	Address
Hamilton	Sat 6-Apr	10 - 11.30am	Celebrating Age Centre, 30 Victoria Street, Hamilton
	Sat 4-May	10 - 11.30am	Celebrating Age Centre, 30 Victoria Street, Hamilton
	Sat 8-Jun	10 - 11.30am	Celebrating Age Centre, 30 Victoria Street, Hamilton
Christchurch	Sat 13-Apr	10 - 11.30am	Café Edge, Cnr Trafalgar St and Edgeware Road, St Albans, Christchurch
	Sat 11-May	10 - 11.30am	St Francis Hall, 168 Stanmore Road, Richmond, Christchurch
	Sat 8-Jun	10 - 11.30am	Café Edge, Cnr Trafalgar St and Edgeware Road, St Albans, Christchurch
Auckland Nth	Sat 13-Apr	10 - 11.30am	Glenfield Community Centre, Corner Bentley Ave & Glenfield Road, Glenfield
	Sat 18-May	10 - 11.30am	Glenfield Community Centre, Corner Bentley Ave & Glenfield Road, Glenfield
	Sat 15-Jun	10 - 11.30am	Glenfield Community Centre, Corner Bentley Ave & Glenfield Road, Glenfield
New Plymouth	Thur 18-Apr	6 - 7.30pm	Citizens Advice Bureau, (Next to YMCA), 32 Leach Street, New Plymouth
	Sat 18-May	10 - 11.30am	Muffin Break, 11 Gill Street, Centre City Mall, New Plymouth
	Thur 20-Jun	6 - 7.30pm	Citizens Advice Bureau, (Next to YMCA), 32 Leach Street, New Plymouth
Auckland Ctrl	Sat 27-Apr	2 - 3.30pm	Grey Lynn Community Centre, 510 Richmond Road, Grey Lynn
	Sat 25-May	2 - 3.30pm	Grey Lynn Community Centre, 510 Richmond Road, Grey Lynn
	Sat 29-Jun	2 - 3.30pm	Grey Lynn Community Centre, 510 Richmond Road, Grey Lynn
Timaru	Sat 13-Apr	10 - 11.30am	Caroline Bay Lounge, 1 Virtue Avenue, Timaru
	Sat 11-May	10 - 11.30am	Caroline Bay Lounge, 1 Virtue Avenue, Timaru
	Sat 1-Jun	10 - 11.30am	Caroline Bay Lounge, 1 Virtue Avenue, Timaru

We have received feedback that the groups have provided "a place to ask questions in a non-judgemental environment" and "I learn more about glaucoma and get to hear from others who are experiencing the same challenges of living with this eye disease". For any queries please contact us at [info@glaucoma.org.nz](mailto:info@glaucoma.org.nz) or call us on 0800 452 826.

# Eye Drop Side Effects

Serious side effects from eye drops are very uncommon but you need to be aware of them. Less severe problems such as stinging and irritation may be tolerable if the medication is working well, but equally may be unacceptable as glaucoma medications need to be used long term.

## Betablocker eye drops

Eye drops such as Timolol, Betagan, Betoptic, Timoptol, Combigan and Dortim eye drops can cause:

- Shortness of breath, wheeziness
- Tiredness
- Depression
- Disturbing bad dreams
- Impotence, problems with sexual activity
- Reduced ability to exercise

## Brimonidine (also found in Combigan) eye drops

Patients taking Brimonidine eye drops sometimes get:

- Tiredness, drowsiness
- Dry mouth
- Conjunctivitis (red, uncomfortable eyes, due to allergy, usually after using the drops for several months)



## Prostaglandin eye drops

These include Hysite, Travatan and Bimatoprost (Lumigan) and can cause:

- Red eyes
- Bruising appearance to the eyelids
- Long eyelashes
- Gritty eyes
- Sunken eyes

## Carbonic anhydrase inhibitor eye drops (Trusopt, Azopt & Dortim)

- Trusopt stings because it has to be a little acidic
- Allergies similar to the Brimonidine allergy can occur after a number of months
- Metallic taste

This information does not include all possible side effects from eye drops. If you are concerned by other potential side effects from drops, or if you are having problems with any of the symptoms listed above, please tell your ophthalmologist, optometrist or GP but do not discontinue use until otherwise advised by your health professional.



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To purchase your Entertainment Book, including Digital Membership which allows you to redeem offers directly from your iPhone or Android smartphone visit, [www.entertainmentbook.co.nz/orderbooks/102253y](http://www.entertainmentbook.co.nz/orderbooks/102253y) or phone 0800 452 826.

## In Memoriam

We acknowledge with gratitude bequests in loving memory of:



Estate of the late  
Ngaire Elizabeth Evans

# New Product Release explorē 8



## explorē 8

The big picture in a small package



The explorē 8 handheld electronic magnifier incorporates a high definition 8 inch screen with twin cameras for unsurpassed closeup and distance viewing clarity. Perfect when you're at a restaurant, the library, shopping, at school, travelling or at work. Large physical buttons and smart touchscreen technology make the explorē 8 intuitive and easy to use.

For further information contact

Niishahn Taan

0277001674

Niishahn.Taan@humanware.co.nz

[www.humanware.com](http://www.humanware.com)

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see things. differently.

**YES! I would like to help Glaucoma NZ save sight**

Title  Mr  Mrs  Ms  Miss  Other

First Name \_\_\_\_\_

Last Name \_\_\_\_\_

Name to appear on tax receipt  
\_\_\_\_\_

Street Address \_\_\_\_\_

Suburb \_\_\_\_\_

City \_\_\_\_\_ Postcode \_\_\_\_\_

Email \_\_\_\_\_

Phone (home) \_\_\_\_\_

Phone (mobile) \_\_\_\_\_

**YES!** I would like to become a regular donor

**I would like to give a gift** (choose one)

Single  Weekly  Monthly  Annually

Amount  \$200  \$150  \$100  \$50 or \$ \_\_\_\_\_

**I would like to pay by** (choose one)

Cheque enclosed

Credit Card VISA / Mastercard (circle one)

Card Number \_\_\_\_\_

Cardholders name \_\_\_\_\_

Amount \$ \_\_\_\_\_ Expiry Date \_\_\_\_\_ / \_\_\_\_\_

Signature \_\_\_\_\_

I will give by direct Credit to:

Bank Act: 12-3013-0180964-00 REF: Name

**I would like to receive more information about:**

Donating on a regular basis by Automatic Payment

For online donations visit [www.glaucoma.org.nz](http://www.glaucoma.org.nz)

**Please complete this form and return to:**

GLAUCOMA NZ  
Department of Ophthalmology  
The University of Auckland  
Private Bag 92019  
Auckland 1142, New Zealand  
Donations over \$5 are tax deductible.

# How your donation helps

**\$20** Will ensure three people receive initial support and information packs to assist them to answer their glaucoma concerns.

**\$50** Helps staff the Glaucoma New Zealand telephone support service (0800 452 826) for a month, to answer calls for information, and emotional support.

**\$75** Funds two support groups for a month.

**\$100** Assists to increase community glaucoma awareness and the need for regular optic nerve checks.

Glaucoma NZ is a registered charitable trust and receives no government funding. We rely solely on donations, sponsorship, grants and fundraising. All the information available and provided to over 8000 members of Glaucoma New Zealand and the general public is free.

**Contact us to find out more on**  
[info@glaucoma.org.nz](mailto:info@glaucoma.org.nz) or  
call 0800 452 826

To donate on-line visit [www.glaucoma.org.nz](http://www.glaucoma.org.nz)

Content in 'Eyelights' is intended to help readers understand glaucoma. Every effort is made to ensure the accuracy of this information. This information is not a substitute for the advice and recommendations of health professionals. Always consult a health professional prior to any decision regarding your eyes or other health concerns.

