



Eye on Research

Glaucoma Drug-Dispensing Eye Insert Shows Promise as New Option for Patients Struggling to Take Daily Prescription Eye Drops.

Silicone ring that rests on the eye releases medication slowly over six months, could help lower risk of vision loss among seniors with disease.



A silicone ring treated with the glaucoma drug bimatoprost

SAN FRANCISCO – A new device that slowly releases eye medication may one

day be a promising option for the many glaucoma patients who struggle with administering their own daily prescription eye drops. New research shows a medicated silicone ring that rests on the surface of the eye reduced eye pressure in glaucoma patients by about 20 percent over six months. The first published research about this continuous glaucoma drug delivery technology was released online on 5th May 2016 in *Ophthalmology*, the journal of the American Academy of Ophthalmology.

Despite the availability of effective therapies, glaucoma remains a leading cause of blindness. Nearly 3 million people in the United States have the condition. It is often marked by elevated internal eye pressure, called intraocular pressure. Medicated eye drops taken daily or twice daily can lower internal eye pressure to help prevent damage to the optic nerve. However, studies show that many patients do not take glaucoma eye drops as directed due to factors such as forgetfulness or physical limitations like arthritis.¹ Some studies show that half of patients stop taking their prescription glaucoma eye drops after a year, leaving them vulnerable to vision loss.²

Researchers are tackling this challenge of medication adherence with new drug delivery methods. One technology involves a thin silicone ring suffused with medication that is slowly released over time. An ophthalmologist fits the patient with the ring. No surgery is required. The ring is designed to be replaced by an ophthalmologist every six months. This eliminates the need for glaucoma patients to regularly put in medicated eye drops themselves.

Ophthalmologists at 10 sites in the United States of America tested the ring in a phase 2 clinical trial on patients with glaucoma or ocular hypertension. In the study, 64 patients received the topical ocular insert containing the glaucoma drug bimatoprost. They were also supplied artificial tears to lubricate

Continued over page

Silver Sponsor



Bronze Sponsor



Supported by



the surface of the eye. The control group of 66 patients wore an insert treated with no drug but twice a day used 0.5 percent timolol drops, the regulatory benchmark for glaucoma drugs. Eye pressure in the bimatoprost group fell 3.2 to 6.4 mmHg over six months, in comparison to 4.2 to 6.4 mmHg for the timolol group. Overall, eye pressure decreased in the group wearing the bimatoprost ring by about 20 percent from the initial measurements over six months.

Authors said the device was well-tolerated and safe, with a high retention rate of 89 percent for both groups at six months. The ring became dislodged in 15 patients, but was replaced each time, allowing therapy to continue. Some patients experienced itchiness and eye redness, which is not unusual for patients taking glaucoma medication.

“In making effective treatments easier for patients, the hope is that we can reduce vision loss from glaucoma, and possibly other diseases,” said study author James D. Brandt, M.D., director of the UC Davis Medical Center Glaucoma Service. “What is exciting is that this is just one of several sustained-release drug delivery methods designed to help patients who have trouble taking daily eye drops.”

A phase 3 study of a larger group of patients is expected to begin later in 2016. The authors noted the device could also be used for non-glaucoma medications, with potential applications for dry eye, allergies and inflammation. In addition, the non-invasive nature of the device and its relatively large surface area make this technology a potential candidate for delivering multiple ocular drugs at once, further reducing the burden of self-administration on patients.

“Six-month IOP Reduction with a Topical Bimatoprost Ocular Insert: Results of a Phase 2 Randomized Controlled Study,” Brandt, et al. Ophthalmology, article in press, May 2016. DOI: 10.1016/j.ophtha.2016.04.026.

References:

1 *Patterns of Glaucoma Medication Adherence over Four Years of Follow-Up, Newman-Casey, et al. Ophthalmology, 2015.*

2 *Adherence and persistence with glaucoma therapy, Schwartz, et al, Survey of Ophthalmology, Nov. 2008*

Support Glaucoma NZ – purchase iconic “Cecily” products (see how below) - so much to choose from, something for everyone.

Cecily is teaming up with Glaucoma New Zealand for their Annual Awareness Appeal in July. In case you have not yet been introduced to Cecily she is a cartoon character. Not just a stick thin pencil line drawing though, she is a well-rounded character, sometimes more well-rounded than she would like! Cecily is someone that women will recognise, for Cecily’s foibles are their own. Cecily diets, skips gym classes, sometimes drinks too much and worries about how she looks. She has bad hair days, occasionally consults her horoscope and struggles with technology. She is a modern woman who lives life to the full as she pursues career, friendship and love.

Cecily is the brain child of Celia Allison who lives and works in Lyttelton, Christchurch.



Cecily's arms weren't long enough anymore.

Cecily Lens Cloth

Apart from two books of cartoons, Cecily’s humour can be found on quality merchandise such as cards, calendars, notebooks, lens cleaning cloths, on tasteful and useful household items, and other great products and accessories. These are almost always made in New Zealand, as Celia wants her endeavours to be good for New Zealand, not just for her. Exceptions do exist, e.g. cotton products as New Zealand does not grow cotton. However even here a large part of the production (i.e. printing) does take place in New Zealand.

Enough of me, Cecily says! What about Glaucoma New Zealand? **For the month of July every order on the Cecily website that mentions ‘Glaucoma NZ’ will have 50% of the sale go to Glaucoma New Zealand.** To ensure Glaucoma New Zealand receives the contribution just enter ‘Glaucoma NZ’ in the special instruction box when you see ‘Your cart’ at www.cecily.co.nz. So visit www.cecily.co.nz, have a laugh, make a purchase, and help Cecily help Glaucoma New Zealand.

Public Meetings 2016

Glaucoma NZ’s **free** public meeting programme commenced with Kerikeri with the following meetings confirmed.

Meetings start at 10.00am:

16 July in Auckland - Alexandra Park, Green Lane West, Epsom, Auckland

20 August in Orewa - Evelyn Page Retirement Village, 30 Ambassador Glade, Orewa

10 September in Christchurch – Commodore Airport Hotel, 499 Memorial Ave, Christchurch

These meetings are extremely popular and informative so plan to attend when there is one in your area. Other locations on the 2016 itinerary include Hamilton, Pukekohe and Invercargill. Visit www.glaucoma.org.nz for details. Glaucoma NZ members will receive personal invitations for meetings in their area. These meetings are open to any member of the public wanting to know more about glaucoma – invite your family and friends to attend.

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 NZ is a registered charitable trust and receives no government funding. We rely solely on donations, sponsorship, grants and fundraising. All the information available to you from Glaucoma NZ is free.**

July is Glaucoma Awareness Month

Glaucoma New Zealand's July Awareness Appeal is a call to action – with a focus on getting people to have their eyes examined, raising awareness of glaucoma, and generating vital funds to enable GNZ to continue its sight saving work.

Glaucoma NZ offers services to everyone affected by and concerned with glaucoma; advocating for regular eye checks, educating the public and health professionals, providing support and information to those with glaucoma and their families, as well as contributing to research.

Since 2002, GNZ has strived to make glaucoma a highly visible disease so people are more aware of the importance of getting their eyesight checked regularly", says Glaucoma NZ Executive Manager, Helen Mawn.

About 91,000 New Zealanders over the age of 40 have glaucoma and more than half don't know they have it. Worldwide 64 million people have glaucoma and that's expected to grow to 111.8 million worldwide by 2040.

"Glaucoma is the leading cause of preventable blindness. What makes glaucoma unique is that if glaucoma is diagnosed early and treatment started in a timely fashion, blindness becomes rare", Professor Helen Danesh-Meyer, Chair of Glaucoma NZ says.

"A diagnosis of glaucoma has profound impact on patients. Patients with glaucoma are more likely to experience falls and injure themselves and have difficulty adjusting their vision to dim light (such as dusk and dawn). Glaucoma patients are also more likely to be involved in motor vehicle accidents. Losing the ability to drive has a huge impact on quality of life and independence", Professor Danesh-Meyer says.

A glaucoma eye examination can pick up the disease early and appropriate treatment like eye drops can halt its progression and preserve sight.

The good news is that 98% of those who comply with their prescribed treatment for glaucoma will not go blind. That could mean putting in eye drops every day for the rest of their lives – a simple thing to do to save precious sight.

There are many ways to make a donation to the July Appeal, enabling Glaucoma NZ to continue its work.

- **This year GNZ is teaming up with Cecily** – a popular cartoon character created by Cantabrian Celia Allison. **Throughout July for every order at www.cecily.co.nz that uses the code "Glaucoma NZ" – 50% of the sale will be donated to GNZ. Just enter "Glaucoma NZ" in the instruction box when you see "Your Cart". Cecily's** humour can be found on quality merchandise such as lens cleaning cloths, cards, calendars, stationery, prints, tea towels and much more. **Have a laugh, make a purchase, and help Cecily help GNZ.**
- **Lending their loyal support** are the optometrists, ophthalmologists, and pharmacists around the country who have taken GNZ's donation boxes.
- **Many optometrists and ophthalmologists** are also donating \$2 from each eye examination undertaken during July and we are grateful for the donations that we have received in lieu of taking donation boxes.
- **A number of businesses and organisations** are participating, taking donation boxes, or giving a donation.



- **Donations can be made via our website www.glaucoma.org.nz**, by completing the coupon on the back page of Eyelights, or by visiting your nearest ASB Branch.

Thank you to all of this year's July Appeal participants! Your continued support is appreciated.

Early detection of glaucoma is vital in preventing blindness.

That means having an eye examination for glaucoma every five years from the age of 45 and every three years from the age of 60.

However, at any age, if you notice changes in your eyesight, then you should have your eyes examined at that time.

For example, don't rely on hobby glasses, it's a good idea to have your eyes checked by an eye health professional, just in case there is an underlying problem.

Also if you have risk factors for glaucoma, such as family history, then you may need your eyes checked more frequently.

APPEAL SPONSORS, THANK YOU



Glaucoma NZ Symposium 2016

Registration now open

The inaugural Glaucoma New Zealand Symposium will be held in September 2016. This is a one day education event for optometrists and other eye health professionals.

- **Where:** Alexandra Park Function Centre, Green Lane West, Epsom, Auckland
- **When:** Sunday 18 September 2016, 8.15 am – 5.00 pm
- **Conference Programme:** The overall theme of the Symposium is 'Glaucoma – from Diagnosis to Management'. It will be an exciting one day conference with rapid-fire presentations on a wide range of glaucoma topics, including Glaucoma Diagnosis, Special Issues in Glaucoma, Glaucoma Treatment and Challenging Cases. The scientific programme is being overseen by Professor Helen Danesh-Meyer and presentations will be given by glaucoma specialist ophthalmologists and optometrists.
- **Cost:** \$120 per delegate for a full day of glaucoma education
- **Professional Education:** Application for up to 6 clinical diagnostic points
- **Registration:** For more information and to register for the Symposium, visit www.glaucoma.org.nz

Thank you to our Silver Sponsors



Gonioscopy – An Important Part of the Comprehensive Glaucoma Assessment

What is Gonioscopy?

Gonioscopy is an important part of the glaucoma assessment. The purpose of gonioscopy is to evaluate the structures of the internal drainage system of the eye, referred to as the anterior chamber angle. The “angle” is where the cornea and the iris meet: This is the location where fluid that is produced inside the eye (aqueous humour) drains out of the eye and into the venous system. Under normal circumstances, the structures of the angle cannot be seen on examination. A special contact lens with one or more mirrors (gonioscopy lens), placed on the surface of the eye, allows the ophthalmologist or optometrist to visualise the angle and drainage system.

Why is Gonioscopy Included in a Glaucoma Assessment?

The pressure inside the eye is maintained by the constant production and drainage of aqueous humour. If the drainage system is not functioning properly, the pressure inside the eye (intraocular pressure) can increase. High intraocular pressure can lead to damage of the optic nerve, the “cable” that sends visual signals from the eye to the brain. This kind of damage is called glaucoma, a leading cause of preventable blindness in developed countries, including New Zealand.

By looking at the angle structures, ophthalmologists and optometrists can determine if it is open or closed, as well as whether there are abnormal blood vessels, adhesions between the iris and the cornea, or damage from previous eye trauma. Gonioscopy is the most important test for the diagnosis of angle closure glaucoma, and is a useful examination technique for the diagnosis of secondary glaucoma



“Examination of the anterior chamber angle by gonioscopy”

including pigment dispersion syndrome and pseudoexfoliation syndrome.

If the angle is closed or very narrow, the patient is at increased risk of suddenly developing very high intraocular pressure and damage to the optic nerve, known as acute angle closure glaucoma. This increase in pressure can be treated, or even prevented, with laser treatment (peripheral iridotomy) if the predisposing angle abnormality is recognised during the gonioscopy examination.

In addition, gonioscopy allows the optometrist or ophthalmologist to note more subtle characteristics of the eye’s drainage system, in order to guide their diagnosis and management plan for each glaucoma patient.

How is Gonioscopy Performed?

Gonioscopy is performed with the head positioned at the slit lamp (the microscope used to examine the eyes). Topical anaesthetic eye drops are used to numb the surface of the eye (these are the same eye drops that are often used when measuring the intraocular pressure). A special contact lens (gonioscopy lens) is gently placed directly on the eye (sometimes some lubricating eye gel is also used) and a beam of light from the microscope is used to illuminate the angle. Because the surface of the eye is numb, there is no pain associated with gonioscopy. However, the eyelids may feel the presence of the lens. The examination of the angles of both eyes with a gonioscopy lens takes just a few minutes.



HealthPost delivers for Glaucoma NZ, as its Charity of the Month for April!

HealthPost’s special online promotion raised \$6,954 for Glaucoma NZ during the month of April. HealthPost is New Zealand’s largest online supplier of natural health and skincare products (over 4,000 natural health products all sold under RRP) visit www.healthpost.co.nz.

A huge thank you to HealthPost for their efforts and generosity in supporting Glaucoma NZ, raising vital funds! Thanks also to Clinicians for lending their support to the Promotion offering purchases of any Clinicians product at an extra 15% discount during the month. Our appreciation to everyone who supported Glaucoma NZ by going online and placing an order with HealthPost in April.

Contributions to Eyelights

We would like to thank the following people for contributing to the July 2016 Eyelights publication.

Prof. Helen Danesh-Meyer

Hannah Kertsen

Assoc. Prof. Gordon Sanderson



Public Mail Box

I have been diagnosed with early stage glaucoma. Can you advise me if using a computer all day worsens the condition? What about stress?

Working on a computer all day will have no impact on the worsening of your glaucoma. No studies have shown that stress worsens glaucoma, but many ophthalmologists have found that eye pressure may be elevated during periods of stress. This may be due to poor compliance with using eye drops. The best way to minimize worsening of glaucoma is to use your drops and attend your regular follow-up appointments.

Can vision deteriorate despite treatment for glaucoma?

Yes, as part of the normal aging process, we lose cells in the optic nerve responsible for vision. Currently, there is very little that can be done about this change due to aging.

Patients with severe damage from glaucoma will be more aware of this progressive loss of vision. That’s why it’s essential to diagnose glaucoma early before damage to the nerve cells affects your vision.

July Annual Awareness Appeal

WE NEED YOUR HELP to continue our vital work of saving sight. Please support our efforts to eliminate unnecessary blindness from glaucoma.

Without additional funding the full delivery of our programmes and initiatives will be in jeopardy. An estimated 91,000 New Zealanders over the age of 40 currently have glaucoma. 50% of these people don't know they have it.

For 15 years we have reached thousands of New Zealanders with our nationwide programmes but there is still much more to be done.

Public Meetings	Workplace/Community Seminars
Educational Resources	0800 Advisory Service
Eyelight Publication	Health Professionals Education Programme
Research	Advocacy

Your support is important to us – we can't do it alone.

THANK YOU for your continued generosity - every donation counts!



YES! I would like to make a donation to the Glaucoma NZ's
July Awareness Appeal

\$300 \$100 \$50 \$20

\$ _____ (other)

Name _____

Address _____

_____ Postcode _____

Ph _____ Email _____

I enclose my cheque made payable to Glaucoma NZ

Please debit my credit card Visa Mastercard

Name on Card _____

Card No _____ / _____ / _____ / _____

Expiry Date ____ / ____ Signature _____

Donations of \$5.00 or more are tax deductible and will be receipted.

YES! I would like to receive more information about:

Donating on a regular basis by Automatic Payment

Leaving a gift in my Will to Glaucoma NZ

I have already included Glaucoma NZ in my Will

The Trustees of Glaucoma NZ

Professor Helen Danesh-Meyer
(Chairperson)

Dr Mark Donaldson

Dr Sam Kain

Associate Professor Gordon Sanderson
(Deputy Chairperson)

Glaucoma New Zealand - CC21421
is a registered charitable entity in
terms of the Charities Act 2005.

Accountants - Moore Stephens Markhams

Contact Details

Glaucoma New Zealand

Department of Ophthalmology

The University of Auckland

Private Bag 92019,

Auckland 1142, New Zealand

Telephone: 09 373 8779
0800 GLAUCOMA
0800 452 826

Facsimile: 09 373 7947

Email: info@glaucoma.org.nz

www.glaucoma.org.nz

Entertainment™ Books



A great gift for family and friends – something for everyone!

The Entertainment™ Book is a restaurant and activity guide that provides hundreds of 25-50% off, and 2-for-1 offers from popular restaurants, cafes, cinemas, hotel accommodation and attractions throughout Auckland, Whangarei and Bay of Islands / Waikato and Bay of Plenty / Wellington and Manawatu / Christchurch, Canterbury and Nelson / Dunedin, Invercargill, Queenstown and surrounds, as well as Australia. Glaucoma NZ receives a donation from every book sold.

Order your Entertainment Book now and not only will you receive over \$15,000 in valuable offers, valid to 1st June 2017, but you will also help raise vital funds for the ongoing work of Glaucoma NZ.

To purchase your Entertainment Book, including Digital Membership which allows you to redeem offers directly from your iPhone or Android smartphone visit www.glaucoma.org.nz, or phone 0800 452 826.