

Eyelights



The Newsletter of Glaucoma NZ
Volume 10 | Issue 1 | April 2013

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Glaucoma**

**Keep your Eyes on
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**Glaucoma NZ Research
Grant Report**

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New Year Resolutions for Your Eyes

Make 2013 the year you make good on your New Year's Resolutions.

Here are five that focus on Eye Health:

Start the year by scheduling an eye examination.

Patients in the early stages of glaucoma usually have no symptoms, no noticeable signs of vision loss and no pain, which is why glaucoma is called the 'sneak thief of sight.' By the time symptoms start to appear, some permanent damage to the eye has usually occurred. Early detection is vital to prevent vision loss.

Tell your family about your glaucoma.

If you are diagnosed with glaucoma, make sure everyone in your family knows about it and understands that they may be at increased risk of getting glaucoma.

Take your glaucoma medications exactly as prescribed.

Though it may seem obvious that patients who don't take their medication won't achieve the desired results, too many glaucoma patients take some of their medications, don't take them all, or take them improperly. If

you have a hard time complying with your treatment regime, let your doctor know as soon as possible so you can work together on finding a suitable solution.

Commit to exercising regularly.

It's key to staying healthy. It lowers your risk of diabetes, keeps you from being overweight, strengthens your heart and lungs, builds muscle tone.....and it is good for your eyes! Whether it is cardio, long walks, a bike ride or running – do something! But remember to check with your doctors

**Healthy New Year Resolutions
To Start 2013 Off Right**

**HAPPY
NEW YEAR**

**Make 2013
The Best Year Ever!**

Continued over page

before you begin or change an exercise programme.

Take care of yourself.

Eat better this year. Don't just say you will; make that a solid goal. Doctors and researchers are finding more and more diseases and conditions linked to what you eat. Eat a diet rich in a variety of fruits and vegetables and keep your weight at a healthy level. If you smoke, stop! Smoking is not good for your general health.

Have a healthful 2013.

GNZ Professional Education Programme

2013 Programme Open for Enrolments!

Glaucoma New Zealand's 2013 Professional Education Programme is now open for enrolments.

- The online web-based professional education programme is approved by the NZ Optometrist & Dispensing Opticians Board CPD Committee for a maximum of 10.5 Clinical Diagnostic (CD) Credits.
- The programme consists of 7 cases – each with a case history, questions and answers for self-directed learning, followed by an associated web-based examination.
- Successfully passing all 7 cases awards the maximum of 10.5 CD credits.

While mainly directed at optometrists, the Programme is open to any of those in the eye health field, including orthoptists, nurses and technicians.

Up to eighteen hours commitment over the year is involved.

For a full explanatory letter and enrolment options please visit www.glaucoma.org.nz.

For New Readers

*To those of you who have joined **Glaucoma NZ** since the last issue of **Eyelights**, 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 which receives no government funding. We rely solely on donations, sponsorship, grants and fundraising. All the information available to you from Glaucoma NZ is free.



Visual field loss in glaucoma

When your vision is checked with an eye chart only your central vision is measured. This is the fine vision that is used for activities like reading, watching TV or recognising faces. In glaucoma, your central vision is usually normal and is only affected when the glaucoma is very advanced. This is because the vision loss in glaucoma starts by affecting your peripheral vision (side vision) first and over time gradually moves towards the central vision (if untreated).

Peripheral vision is what you use to see objects at the side or edge of your vision. It is used to navigate obstacles in your surroundings (like furniture or doorways) and when driving to see other vehicles or pedestrians in your periphery. Unfortunately, most patients with glaucoma are unaware that they are losing their peripheral vision and it is only when the glaucoma is very advanced (when central vision is affected) that they notice vision loss. For this reason, unless a person is having regular eye checks, the diagnosis of glaucoma is often made late.

The only way that glaucoma can be diagnosed in its early stages is for patients to have an eye examination and a visual field test. The visual field test maps out a patient's entire field of vision enabling any loss of peripheral vision ('missing patches') to be detected early. This helps diagnose glaucoma well before the patient is aware of any vision loss. Visual field testing also helps to monitor patients who have already been diagnosed with glaucoma. For example, if the peripheral vision loss is increasing in size or there are new areas of 'missing' vision then the glaucoma may be worsening.

Visual field testing is performed using a computerised device such as the Humphrey visual field analyser (Figure 1). In this test you sit in front of a concave shaped dome and stare at an object in the middle. Each eye is tested separately (the other eye is patched). You press a button when you



Figure 1: Humphrey visual field analyser

see small flashes of light in your peripheral vision. The flashes are presented randomly in different locations until your entire field of vision is mapped out. Your responses are then analysed by an internal computer and a printout of your visual field is produced.

The printout provides an overview of your field of vision as well as important information on how reliably you performed the test. A visual graph of each eyes field of vision is provided (Figure 2).

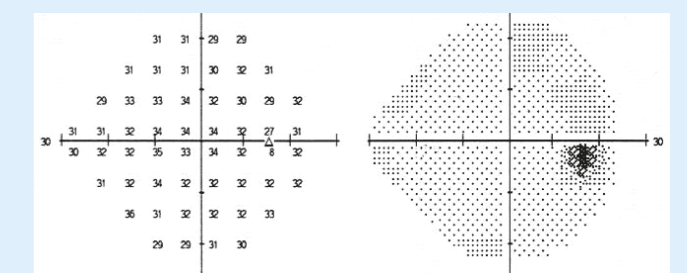


Figure 2: Normal visual field graph (right eye) - the small black area corresponds to normal blind spot

Any areas of your peripheral vision that are reduced or missing appear as grey or black areas on the visual field graph (Figures 3 and 4). In glaucoma, there are typical patterns of peripheral vision loss that are seen which help to confirm the diagnosis.

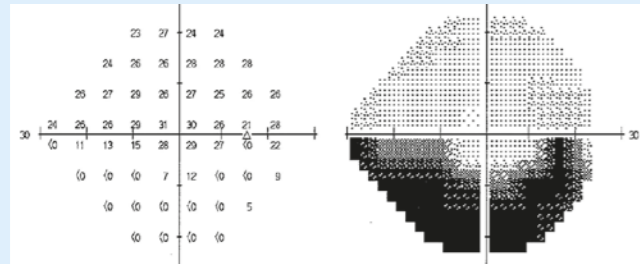


Figure 3: Visual field graph showing loss of lower field of vision in moderately severe glaucoma (right eye) – dark areas correspond to visual field loss

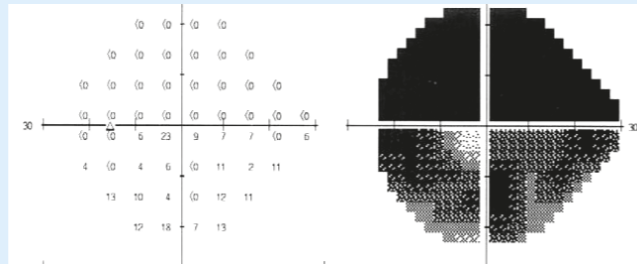


Figure 4: Visual field graph showing severe loss of peripheral vision in advanced glaucoma (left eye) – only a 'small island' of central vision is present

New Trustee for Glaucoma NZ

Glaucoma NZ is proud to announce the appointment of Dr Sam Kain to the Board of Trustees.

Sam is an ophthalmologist working in Tauranga with a subspecialty interest in glaucoma. Sam completed his undergraduate training at the University of Auckland Medical School, and then moved to Melbourne to undertake his ophthalmology training at the Melbourne Eye and Ear Hospital. From there he took further training in diagnosis and management of glaucoma at the Royal Perth Hospital in Western Australia. In 2009 Sam returned to New Zealand with his wife and two small boys to work in the Bay of Plenty.



Sam has been a senior lecturer (Hon) at the University of Auckland since 2010. His research interests include aspects of the physiology of the optic nerve and the epidemiology of eye disease.

As an ophthalmologist with a large glaucoma practice, Sam is delighted to be involved with Glaucoma NZ in a Trustee capacity, and is looking forward to using his expertise to assist with our nationwide activities.

Glaucoma NZ farewells founding Trustee

This year one of our founding Trustees, Dr Mike O'Rourke resigned after 10 years of tireless commitment to GNZ's activities aimed at eliminating blindness from glaucoma.

It was Mike who originally saw the need for an organisation to support people with glaucoma, and from there Glaucoma New Zealand was established.

Mike's contribution and passion for keeping the public informed about glaucoma through GNZ's free nationwide meetings has been enormous. His expertise and guidance in all aspects of GNZ's development over the years has been invaluable.

Thank you for all your hard work, Mike. You will be missed.

Trustees and staff of GNZ



Eye on Research

How do people put drops in their eyes?



As most glaucoma patients know, it can be very challenging getting eye drops in the EYE!

Recently, researchers observed a group of 70 glaucoma patients to detail how they get the drops in the eye. Here is what they found:

These extracts have been found to have the following effects:

- The time it took to instil the first drop ranged from 8.7 to 23.5 seconds (average 15 seconds).
- The number of drops per instillation ranged from one to eight drops (average was 2 drops per attempt).
- The drops fell onto the eyelids or cheek in almost 30% patients.
- Two-third of patients touched the tip of the bottle to the eye or eye area.
- About 20% closed their eyes after the drop which is the correct way.
- About 5% pushed on their tear ducts after putting the eye drop in (which can help prevent the drop from running to the back of the throat).
- About 10% did it absolutely correctly!

Putting In Eye Drops

1. Wash your hands.
2. Start by tilting your head backward while sitting, standing, or lying down. It is a good idea to stand in front of a mirror, or lie down and look directly at the ceiling. With your index finger placed on the soft spot just below the lower lid, gently pull down to form a pocket. 
3. Let a drop fall into the pocket.
4. Slowly let go of the lower lid. Close your eyes gently - try not to shut them tight. This may push the drops out of your eye.
5. Gently press on the inside corner of your closed eyes with your index finger for two or three minutes. This will help keep any drops from getting into your system through the tear duct, and will keep them in your eye, where they are needed. 
6. Blot around your eyes to remove any excess.
7. If you have more than one drop prescribed wait at least 5 minutes before putting in the second one.

Helpful Hints

- Have a daily routine and stick to it. Try storing your eye drops near your toothbrush or tea pot.
- If you don't see well but need to distinguish between different eye drop bottles put a rubber band around one of them so you can feel the difference.
- If you are unsure about whether the drops are getting in your eye, store your drops in the fridge. You will feel the coolness when they go in.

Keep your eyes on the road Glaucoma and driving



Driving a private motor vehicle is of unquestionable importance in society today, especially for those living in rural areas without public transport links. It is the primary mode of transportation for many people in many countries and is linked to one's autonomy, self-esteem, and quality of life.

However, some patients with more advanced glaucoma and visual field loss may have to give up driving when they do not meet the visual field standard required for driving set by the NZ Transport Agency (NZTA).

As always, prevention is better than cure and the early diagnosis of glaucoma and good compliance with treatment will minimize the impact of the disease, and means you are far more likely to be able to continue to drive and carry on a full and active life. Glaucoma does not necessarily mean the 'end of the road' for drivers.

Research studies have shown that glaucoma may be associated with driving difficulties and increased risk of involvement in motor vehicle collisions causing fatality.

While many patients with slight to moderate visual field impairment can perform standard driving manoeuvres safely, peripheral obstacle and hazard detection, and unexpected events may present a problem as visual field loss becomes more advanced.

One 2008 study compared the skills of 20 glaucoma patients and 20 age-matched controls in a 10-km on-road driving test with a trained instructor; the test was designed to check 55 standardized manoeuvres and skills.

The study found that glaucoma patients were six times more likely to need the instructor to

apply the brake or use the steering override to prevent an accident, and the main reason for these problems was failure to see and yield to a pedestrian.

The danger comes, especially in driving, when the missing parts of the visual field for each eye overlap: instead of an accurate combined visual picture, the brain will reconstruct the missing parts of the picture based on the information it has from the parts of the field of vision that are working.

The driver will have no idea that this is happening. This may give a dangerously inaccurate picture and unexpected events may be missed, such as a child crossing the road.

Further studies of patients with visual field defects demonstrated increased variability in lane position and more frequent lane boundary crossings than normally sighted individuals.

Drivers with a more restricted binocular visual field had poorer anticipatory skills, as well as more difficulty matching the speed of other cars when changing lanes; maintaining lane position; staying in the lane when driving around a curve; and interacting with other cars. Glaucoma patients are three times more likely to have an accident than normally sighted people in driving simulators.

Some glaucoma patients do become aware of their own limitations and avoid challenging driving conditions as well as night driving.

In many cases however, an individual may not initially notice having more difficulty driving. It may be a family member who notices that Dad can't change lanes or parallel park the way he used to, or that his depth perception isn't as good.

One factor that can make detecting a driving problem challenging is that glaucoma produces gradual rather than sudden vision impairment. It is for good reason that glaucoma is often referred to as the 'silent thief of sight' because many people with glaucoma are not aware of significant and sometimes advanced peripheral visual field loss.

In many cases the subject of driving will be raised by your eye specialist. In addition to the usual visual field tests which assess each eye separately you may be advised to perform a binocular visual field test (e.g. the Estermann visual field test), which may be a better indicator of actual field loss in the real world, as in some cases areas of visual field loss in one eye may be compensated for by a normal area of field in the other eye.

There are defined visual field standards for driving published by the NZ Transport Agency (NZTA): For all licence classes, the minimum standard is a binocular horizontal field of 140 degrees. There should be no significant field defect encroaching within 20 degrees of the point of fixation.

In borderline cases where the standard is not quite reached, your eye specialist can seek advice from the the NZTA, who may allow continued driving with conditions, such as only allowing driving on familiar roads, only driving within a certain limited radius of home, or no night driving.

It is worth remembering that your eye specialist can advise you about driving eligibility and risk but cannot actually take your licence away – only the NZTA can do that.

However medical practitioners have a legal obligation to advise the NZTA of any individual who poses a danger to public safety by continuing to drive when advised not to. (Section 18 of the Land Transport Act 1998 – see section 1.4)

The International Glaucoma Association runs a 'Can U C 2 Drive Campaign' and useful information including a video simulating the effect of driving with glaucoma can be found on their website – see reference below.

Summary of effects of glaucoma and visual field defects on driving

Increased risk of car accidents including fatality.

Increased accident rate in driving simulators.

Difficulty matching speed of other cars, driving 'straight' and keeping in lane.

Driving Safety Checklist

Avoid driving in conditions you do not feel comfortable with or where you are aware your vision is less good e.g. at night or in dull overcast weather. If possible have family member to drive in less favourable conditions and only drive on familiar roads.

Ask family members or friends if they feel you can still drive safely.

Ask your glaucoma specialist about driving safety and risk if not already discussed – especially if you have noticed a problem.

References

<http://www.glaucoma-association.com/can-u-c-2-drive-campaign/impact-of-glaucoma-on-driving.html> (video simulation of driving with glaucoma)

Glaucoma NZ Summer Student Research Grant Report

In November last year, 500 Glaucoma NZ members with glaucoma were invited to participate in a study which aimed to provide a better understanding of how people with glaucoma were being detected and managed in New Zealand. The study was funded by *Glaucoma New Zealand* and *the University of Otago, Dunedin School of Medicine*. Participants could return a postal questionnaire, complete an online survey or answer the questions over the phone.

Each participant was asked about the detection and treatment of their glaucoma. They were also questioned on their general eye health, side effects from drops and how often they visited different healthcare providers. Reminder letters were sent out in early December to those whose replies had not yet been received. Unfortunately, this included many participants whose replies were still in transit.

The research team, consisting of GNZ deputy chairperson Associate Professor Gordon Sanderson, ophthalmologist Dr Ben LaHood and medical student Joshua Erceg, were thrilled to hear back from 80% of all eligible GNZ members that were contacted. This response rate was considerably higher than what is normally achieved in academic research, suggesting that GNZ members are particularly motivated to help improve the scientific understanding behind their condition. The team was also encouraged by all of the words of support and by how willing participants were to contribute.

There was no difference found in the response rates between males and females, or between different areas of the country. However it was found that people living in lower socio-economic areas were slightly less likely to respond. Also, among the 376 respondents only two identified as Māori.

Analysis of the responses found a lot of

interesting results, including the following:

- 80% of respondents did not suspect glaucoma before they were diagnosed.
- Among those who were suspicious of glaucoma, 70% had a family history of the disease.
- Those suspecting glaucoma were nearly four times as likely to present to an ophthalmologist.
- Half of all respondents knew at least one family member who had glaucoma.
- 95% told family members about their glaucoma and 90% advised regular check-ups.
- 90% were using glaucoma eye drops. Nearly half of this group was experiencing some kind of side effect - the most common being itchy eyes, red eyes and longer or thicker eyelashes.
- Eyes receiving more than one kind of glaucoma eye drop were 30% more likely to have side effects.
- Half of all respondents had received laser therapy or surgical treatment at some stage.

The information found in this study suggested that there are still a large number of people with undiagnosed glaucoma in New Zealand, and that many of these people may have easily identifiable risk factors like older age and a family history.

This suggests that a screening programme targeted to high-risk groups could be of great benefit, allowing early treatment before vision is permanently lost.

Further studies covering the same questions, but targeting lower socio-economic groups and Māori might have some value in supplementing the results of this project.

Public Meetings 2013

Glaucoma NZ's free nationwide public meeting programme is underway with meetings already being held in East Auckland, Whakatane and Queenstown.

These meetings are extremely popular and informative so plan to attend when there is one in your area.

Other locations on the 2013 itinerary include Blenheim, Thames, Auckland Central, Snells Beach, Pukekohe, Dunedin, Kapiti Coast, Tauranga, New Plymouth and Havelock North.

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.

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Use the enclosed order form to order your Entertainment Book now and not only will you receive over \$15,000 in valuable offers, valid to 1st June 2014, but you will also help raise vital funds for the ongoing work of Glaucoma NZ.

You can order online - please visit www.glaucoma.org.nz



Out & About

World Glaucoma Week 10th to 16th March

'World Glaucoma Week' is an international initiative dedicated to raising awareness of this 'silent' eye condition and the importance of early detection and lifelong treatment. Glaucoma NZ staff lent their support by handing out resources at the Greenlane Eye Clinic to coincide with the various clinic times.



This proved to be a great way to talk to many patients, their family members, medical and nursing staff, raising awareness of glaucoma and encouraging membership to Glaucoma NZ.

A Public Meeting was also held in Queenstown during this week further highlighting key messages about glaucoma to the community.

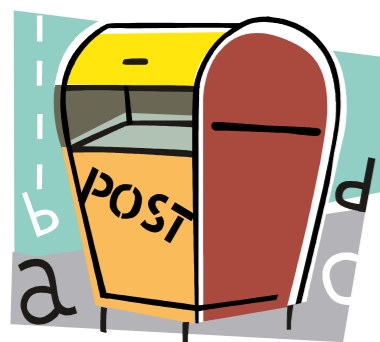
BURGLAR ON THE PROWL

By Sylvanus Barnes, member of the Antigua/Barbuda Glaucoma Support Group (appears on WGW website).

*There's a burglar on the prowl,
And he's right around the cornea;
He's called "the thief of sight,"
The ubiquitous glaucoma.*

*He's silent, he's invisible.
He's neither heard nor seen;
He'll smash your precious window if you
disregard the screen.*

*He's a slippery, dangerous felon,
And he needs to be arrested,
But it's up to you to do it;
Stop glaucoma, GET TESTED*



Public Mail Box

When drops are used by my eye specialist during an eye examination – what are they and what do they do? Do they have any side effects?

For routine examinations an eye specialist uses two types of eye drops. Firstly, local anaesthetic is applied so eye pressure can be measured. This is done with a strain gauge called a Goldmann tonometer, which is brought against the surface of the cornea. The cornea, as well as being the shiny front window of the eye, is also the most sensitive tissue in the body richly imbued with nerve fibres. It would not be possible to use the tonometer if the cornea was not rendered insensitive by local anaesthetic drops.

The local anaesthetic drops sting briefly, work very quickly to make the cornea numb and wear off over about 15 minutes. The anaesthetic has no side effects except the eye will not feel injury for the time it is numb.

The other eye drop is a dilating drop used to enlarge the size of the pupil. This permits the eye specialist to get a very good view of the inside of the eye, the lens and the retina. Dilating drops are not used as frequently as the local anaesthetic but are very important for accurate diagnosis. Unfortunately they take a long time to wear off (2 - 4 hours) and during this time the vision is poor for reading. Generally driving vision is not affected but in some cases (1 in 10) these drops may impair driving vision.

In some patients with small eyes and less space around the drainage angle, dilating drops may cause increased intraocular pressure and even glaucoma. Sometimes a

specialist will opt not to use the dilating drops because of that risk. The risk of glaucoma after dilating drops is multiplied if a drop to make the pupil shrink is used “to reverse the blurring”. This is why such drops are never used.

Please send feedback and suggestions for Eyelights to the Editor.

Questions for the Public Mailbox are welcomed.

Sponsors bow out

Long term sponsors **Pfizer and Alcon** have advised that they are no longer in a position to support Glaucoma NZ with a charitable donation.

This is a huge disappointment for Glaucoma NZ with many of its planned activities earmarked for funding by Pfizer and Alcon.

However, we would like to take this opportunity to thank Pfizer and Alcon for their significant contribution to GNZ over the years. We hope that at some time in the future they will again be in a position to philanthropically support GNZ’s vital work.

Allergan remain committed

On a positive note, we are pleased to announce that long term sponsor **Allergan** have dug deep and again pledged their continuing support to Glaucoma NZ.

Despite a somewhat challenging market environment, **Allergan** remains committed to supporting Glaucoma NZ’s activities with a charitable donation.

Thank you, **Allergan**, for your loyalty and your investment in improving the outcomes of people with glaucoma, and their families.

Suggested ways you could help Glaucoma NZ help you:

- Continue with your most welcome and appreciated donations.
- Arrange a community fundraising event in your area.
- Contact us to arrange for a glaucoma educator to speak at your club/organisation or workplace.
- Purchase an Entertainment Book.
- Suggest to your work colleagues that they hold a special day or event to support our charity.
- Think of us when preparing or updating your Will.
- Tell everyone about Glaucoma NZ and its services.

P.S. If you are looking at holding a fundraiser, please don't hesitate to contact us to discuss ideas and promotional material we have to enhance your event.

Moving House?

Don't forget to advise Glaucoma NZ of your new address.

Making a Bequest

Including a gift to Glaucoma New Zealand in your Will is a powerful way to make a positive difference to the outcomes of those with glaucoma and their families, far beyond your lifetime.

Some initial steps to consider:

- Talk to your family. Help them understand why you want to support Glaucoma NZ into the future, as well as look after your own family and loved ones.
- Seek advice from your solicitor. People leave bequests of all sizes and no gift is too small to make a difference. Ask about adding a codicil rather than writing a new Will.
- Decide how you wish to share your estate. Whatever the size of your bequest, please be assured it will make a real difference to those with glaucoma, and the services Glaucoma NZ provide.

For more information and to download a Bequest Form that you can discuss with your solicitor, please visit:

www.glaucoma.org.nz

Alternatively phone our office:

0800 452 826

or email info@glaucoma.org.nz

Bequest acknowledgement

Estate of Charles Tuck

New Year Appeal Saving Sight through Education

WE NEED YOUR HELP to maintain and extend our educational initiatives in an effort to reach all New Zealanders with vital information.

- Public Meetings nationwide
- Community Group Presentations
- Information Resources including
 - “**Your Eyes**” a comprehensive booklet on glaucoma and general eye health
 - “**Putting in Eye Drops**” helpful tips card
- Eyelights newsletters
- Continuing Education Programmes for Eye Health Professionals

Please help us invest in a future without blindness from glaucoma.

THANK YOU for your continuing generosity - every donation counts!



YES! I would like to make a donation.

\$200 \$100 \$50 \$20 \$_____ (other)

Name _____

Address _____

_____ Postcode _____

Phone No _____ 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

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I have already included Glaucoma NZ in my Will

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