

Eyelight

The Newsletter of **GLAUCOMA NZ**
TO SAVE SIGHT

About Glaucoma New Zealand

Glaucoma NZ continues to grow because of the tremendous support and goodwill we receive from our sponsors and also from you, our members. We know you will be right behind our major Glaucoma Awareness Project for 2005 which is a nationwide initiative to highlight the need for all at risk to have a glaucoma check.

See below for details of our Mayors for Sight Campaign and page 5 for how you can help. Those of you with glaucoma know just how difficult it is to understand and to live with this condition. The message must go out to everyone in our community that glaucoma is the number one preventable cause of blindness in New Zealand.

Mayors for Sight

Mayors for Sight is the Glaucoma NZ public awareness campaign for 2005. We have invited every Mayor in New Zealand to have a glaucoma eye check by their local optometrist. To date we have over 50 mayors lined up to participate in this event. While the campaign is for all New Zealand, it will be spearheaded in Auckland where Glaucoma NZ has brought together the Mayors of Auckland to have their glaucoma checks at the same place, at the same time! Dick Hubbard, Mayor for Auckland, will join with Mayor Wood from the North Shore and Sir Barry Curtis, Mayor for Manukau City to make



this a special occasion that should attract widespread media attention.

Glaucoma NZ is grateful for the support from optometrists throughout NZ in undertaking the glaucoma tests. The Mayor in each city will be given information on glaucoma and encouraged to support glaucoma awareness in their community. You can expect to see and hear about this event in your area.

The glaucoma checks will occur in the second week of August, which is the glaucoma week of the Save Our Sight month.

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Measuring the Intraocular Pressure

Imagine you have to measure the pressure of your bicycle tyre but you aren't allowed to undo the valve. There are two methods that most people would use. One is to press their thumb into the tyre and feel the resistance to the indentation and the other is to sit on the bicycle and judge how flat the tyre looks where it is in contact with the ground. This simple analogy is not dissimilar to the methods that we use to measure the intraocular pressure of the eye. Because we can't measure directly inside the eye without sticking a needle into it and connecting it to a manometer (which is done, but only for research purposes) we must measure the pressure indirectly.

There are two main methods of doing this. One is referred to as indentation tonometry. Some of you who are "approaching middle age" may remember this from a few years ago where you had to lie on a couch and stare up at the ceiling while a rather shiny metallic object was placed on your anaesthetised cornea. This tonometer, which is commonly referred to as a Schiotz tonometer, has a little plunger in the centre which is used to indent your cornea. The plunger in turn is connected to a needle which enables the pressure to be read off a scale on the tonometer. The further the plunger indents the cornea the softer the eye and the lower the intraocular pressure.

Fortunately this technique has largely been replaced by a much more pleasant procedure referred to as aplanation tonometry. This is akin to looking at how flat the bicycle tyre is against the ground. The tonometer is an attachment to a slit-lamp and you will notice your ophthalmologist or optometrist attaching

the instrument before they begin the pressure measurement. The principle is very simple. On the end of the probe (the bit that contacts your eye) is a flat piece of Perspex. This piece of Perspex will be pressed against your anaesthetised cornea and in the same way as a child's nose appears flattened when pressed up against a glass window, the cornea is flattened by the front surface of the Perspex. The person taking the measurement is able to witness this flattening and measure the circle of the flattened cornea. When your bicycle tyre is soft, a large flattened area of tyre is seen on the ground and when it is hard that area is relatively small. The cornea behaves in the same fashion. The harder the eye is the higher the intraocular pressure, the smaller the flattened circle per unit of force.

Just to extend the principle a little bit further, what the ophthalmologist or optometrist is aiming to do is to create a circle of a known size (3.06mm diameter) by exerting a variable force. In other words they turn the little knob at the side of the tonometer until they achieve a flattened circle of the desired size. Once they have achieved that they measure how much force they have applied to your cornea to produce it and this is directly proportional to the intraocular pressure.

As you would expect it is not a perfect system, it has small errors, but these errors can be allowed for and in some cases ignored. There are a couple of other varieties of tonometer which you may come across. One is an electronic tonometer which is located on the end of a little pen-like structure and not unreasonably gets called a tono-pen. It merely touches your cornea and provides





an electronic readout. It does not need a slit-lamp and is favoured by people like GPs who do not usually possess slit-lamps. The other is commonly referred to as the air puff tonometer and it is used by some optometrists. The air

puff tonometer works by blowing a puff of air onto your cornea and measuring how

quickly the cornea reinstates to its original curvature. It has one advantage over all the other methods, it does not require a local anaesthetic for its use.

However, it is a little unpleasant to have a jet of air puffed onto your eye and a number of people get a bit of a fright when it's done.

Measurement of pressure is the essential tool for managing glaucoma. The more accurate the result we obtain the more useful the information and the better the management of your glaucoma will be.

Paediatric Glaucoma

Paediatric glaucoma is very different from adult glaucoma. Some of these differences are:

- There are special surgical procedures for children that are not often used on adults.
- Some medicines used in adults may have special side effects in children or may even be safer.
- Optic nerve cupping, a sign of glaucoma, may be reversible in children unlike adults where the changes are permanent.

Paediatric glaucoma has many causes:

- Genetic e.g. primary congenital glaucoma (present at birth); infantile glaucoma (appears during the first three years) and juvenile glaucoma (varies, but usually occurs from age three through to the teenage years).
- Following cataract surgery
- Due to ocular inflammation
- Trauma
- Malformations of the eye

Approximately 75% of primary congenital glaucoma cases are bilateral, i.e. occurring in both eyes. It occurs more often in boys than in girls, with boys accounting for approximately 65% of cases.

Glaucoma in infants is a rare condition (about 1 in 10,000 births), but it is an extremely important type of glaucoma because of the number of years that sight needs to be maintained. There have been tremendous advances in the treatment of this condition in recent years and while no guarantees can be given, it is now reasonable to expect a prognosis that is considerably better than was the case even one generation ago.

Current research in paediatric glaucoma is aimed at:

- Application of adult medical treatments to children.
- Development of new surgical procedures
- Gene discovery and its possible future use in gene therapy.

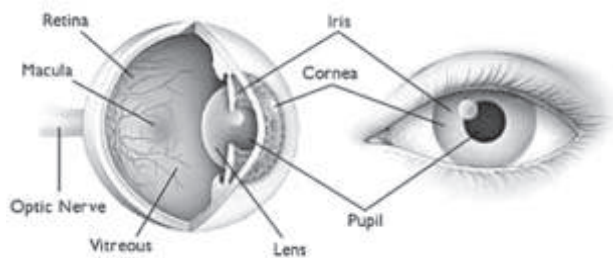
For further information and support contact The Paediatric Glaucoma Family Association. <http://www.pgcfca.org>

Eye Donation Could You ‘Give the Gift of Sight’?

***You may be surprised to know you could still be a donor of eye tissue
even if you have glaucoma!***

Can a person with eye problems become an eye donor?

Most people automatically assume that they would be unsuitable as an eye donor if they have an eye or sight disorder. This is not true in most cases. Because the cornea and sclera (the ‘white’ of your eye) are the only parts of the eye that can be used for transplant, a person would have to have a disorder that specifically affects these to be excluded. People who wear glasses or contact lenses for short- or long-sightedness can be donors, as well as people with disorders of other parts of the eye. This includes people with cataract (cloudy lens), retinopathy due to diabetes, glaucoma and many other disorders.



How is suitability to be a donor determined?

A person’s medical condition and history must be closely considered at the time of death. This is to ensure that they do not have any infection or other disorder which may affect the safety of the tissue when transplanted into a recipient. Criteria for suitability are slightly different for different tissues, but generally infectious diseases such as HIV, hepatitis and neurological disorders are exclusions. However, many more people can be considered for eye donation, as the eye is mostly external, and the cornea doesn’t

have a blood supply, making it unlikely that infections will be contained in the tissue. Eye donors can be aged from 10 – 85 years of age.

What is the difference between organ and tissue donation?

Many people know of the wonders of modern transplant surgery, and that organs such as heart, lungs and kidneys can be donated to save lives. However, donors of these organs are medically rare as they must be in an Intensive Care Unit in a state of irreversible brain death. However, many more people can become donors of tissues when ‘circulatory’ death occurs, which is much more usual. Tissues that can be donated include eye tissue (corneas and sclera), skin, heart valves and bone.

What is the cornea, and why is it needed for transplant?

The cornea is the clear, dome-shaped ‘window’ on the front of the eye. Its function is to provide a transparent protective barrier, and focus light in the correct way through the lens onto the retina. The cornea must remain very clear and of correct shape for good vision. People who develop disorders where the cornea becomes cloudy, scarred, infected or altered in shape can have severe vision problems, eventually requiring a corneal transplant. The cornea looks simple but it is a complex tissue, and must remain viable for transplant – the good condition of the inner cell layer (endothelium) must be assessed with a microscope to ensure it is healthy.

Our Members and the Mayors

We would like to invite you, our membership, to be part of the Mayors for Sight Public Awareness Campaign during Glaucoma Week, August 8th to 12th 2005. Ways you can participate include:

- Meet your Mayor - attend as an invited guest to the screening in your area
- Hit the Headlines – let us give your contact details to selected media who wish to interview glaucoma patients. You don't have to be a Star of Screen and Stage for this – they will want to speak to ordinary people, just like you! Please do not approach the media directly – all contacts should be made through the Glaucoma NZ office.
- Friends and Family – tell us if you have any useful contacts in radio, television or press who might help ensure the widest possible publicity for our Mayors for Sight Campaign.

Phone Gael on 09 373 8779 or email admin@glaucoma.org.nz

What about glaucoma, will this affect the cornea?

It depends, but in modern times, this is unlikely. For most (although not all) forms of glaucoma, the cornea is unlikely to be seriously affected. Likewise, modern forms of glaucoma treatment or surgery are generally unlikely to affect the cornea. Therefore, it cannot be assumed that glaucoma will mean the tissue is unsuitable for transplant.

What should I do if I wish to become a donor?

You should register as a donor on your Driver's Licence, which is the only form of official registration of your intent. A Will is not appropriate for this, since by the time a Will

is read, it is too late for the donation, which must happen soon after death. However, you should also discuss your wishes with your family, as they will be asked to give their consent at the time. It is important that your family feels comfortable with honouring your decision. Donation does not proceed against the family's agreement.

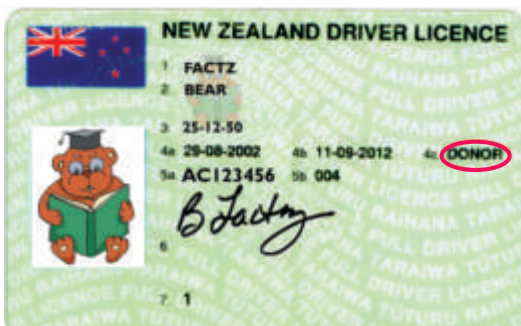
In particular, people who have experienced eye problems such as glaucoma, may especially wish to help others who require eye tissue transplants. This is certainly an option, so don't assume your eyes are not 'healthy' enough!

For further information about donation, please contact:

New Zealand National Eye Bank
Department of Ophthalmology
University of Auckland
Private Bag 92019
Auckland

Phone: 09 373 7537

Email: eyebank@auckland.ac.nz



GNZ Public Meeting – A Nurse’s View

I am a nurse working in ophthalmology in Christchurch and was in Dunedin recently to attend the annual Ophthalmic Nurses’ Conference which runs alongside the College of Ophthalmologists annual conference. I was pleased to have the opportunity to attend the Glaucoma New Zealand Public Meeting held in the Dunedin Centre.

I have learned about glaucoma in my role as a nurse, but I have no family or friends with glaucoma and so I was interested to see how glaucoma was explained to people, and their reactions and questions.

I was impressed by the enthusiasm of this dedicated team who are spearheading the campaign to do something about glaucoma in New Zealand. I realised that this is relevant to us all, as we all fall into two groups; those who have glaucoma (whether they know it or not) and those who may get it in the future. Even as a nurse I don’t think I used to know much about glaucoma, and even when I started specialising in ophthalmology it took quite a while to develop a good understanding of it. What a challenge to explain it to a large group of non-medical people in about 40 minutes! Knowing the way ophthalmologists usually talk, I was impressed by the efforts the



presenters made to reduce the number of technical and medical terms used and to explain glaucoma in a straightforward manner. All the same, I did see a few people around me rolling their eyes at each other at one point, and I discussed this with one of my nurse colleagues after the meeting. We wondered how the technical and medical terms must sound. ‘Trabeculectomy’ seems

impossible for people to pronounce and sounds frighteningly like a triple vasectomy, while ‘aqueous humour’ doesn’t seem funny and certainly lacks a punch line.

I hope that people will not be intimidated by the complexity of this disease but instead might aim to take in a little more information at each opportunity and feel encouraged to ask questions and find out more.

Clearly, understanding glaucoma is a process that takes time and patience, but is crucially important in achieving good treatment. For what is the point of state-of-the-art diagnosis and treatment if the person stops using their drops because they thought the glaucoma was cured when the bottle was finished?

Those attending this meeting certainly did ask questions and they left armed with more knowledge and understanding than they came with. I would definitely recommend others to attend a meeting in their locality if the chance arises.

Contact Us with Your Questions & Comments

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Natural Remedies for Glaucoma?

Ginkgo Biloba has some interesting properties. It is a leaf extract of the Maidenhair tree which is the only surviving example of an ancient family of trees dating from the Permian period – 250 million years ago. It is currently used for blood vessel disease, cognitive dysfunction such as in Alzheimer's disease and as a blood thinner. It acts as an antioxidant similar to vitamins A and C.

Ginkgo contains 60 substances with biological activity. It is a potent inhibitor of platelet activating factor and therefore thins the blood, preventing clotting but also promoting bleeding which may not be a good thing. In animal studies preventing clotting of blood can reduce the amount of damage to the brain in a stroke involving a blocked blood vessel (it would, of course, make a stroke worse if bleeding was involved). It certainly improves blood flow which may help in glaucoma if the optic nerve has an insufficient blood supply.

Ginkgo has a relaxing effect on smooth muscle which is the involuntary type of muscle found in the wall of blood vessels. This effect makes it useful for people with Raynaud's phenomenon which is the very cold, blue fingers that some people get in cold weather. People with Raynaud's are more likely to get glaucoma even with relatively low eye pressures so ginkgo may be of benefit for them – more research into this is required.

Ginkgo still has no proven benefit for glaucoma treatment but it is the only alternative treatment that is showing any promise for the future. The problem is the side effects, mainly unwanted bleeding, and the cost which is about \$1000 per year for a standard treatment dose.

Research into new medications for glaucoma is continuing world wide. There is also a huge amount of research into older medications

such as Ginkgo but until it can be of proven benefit you will find your eye specialist reluctant to recommend its use. The trustees of Glaucoma NZ keep up to date on the world journal publications so watch future Eyelights - we will let you know of any breakthroughs in research as they occur.

Volunteers needed!

Office Person

Do you have basic office skills and a few hours to spare one day a week?

We already have one wonderful volunteer, but we are getting busier and Elizabeth could do with some help with the photocopying, making up membership packs, stuffing envelopes etc. etc. And trying to keep me tidy in our very small office! The work is basic (and sometimes boring). On the plus side, there is variety and your help will be very much appreciated.

Newsletter Despatch Team

We are also looking for volunteers to join our friendly despatch team. The task is to help fold and stuff our newsletters into envelopes ready for mailing to our 1,500 plus membership. A commitment of one day, once every three months is all that is asked.

Glaucoma NZ is located within the Auckland Medical School in Grafton, opposite Auckland Hospital.

If you feel you can help with either of these positions please phone Gael on 09 373 8779.

YES, I would like to help

I would like to become a member of Glaucoma NZ at no cost

I would like to donate \$_____

I enclose my cheque for \$_____ made payable to Glaucoma NZ, or please debit my

Visa Amex Mastercard Name on Card _____

Card No ____/____/____/____ Expiry ____/____ Signature _____

Address _____

_____ Phone No _____

Donations of \$5.00 or more are tax deductible

I am interested in becoming a volunteer for Glaucoma NZ

I would like information on leaving a bequest for Glaucoma NZ

Public Meetings

Many of our Christchurch members will have attended our meeting there last September and all who did would remember the huge turnout. Our venue just wasn't big enough for the numbers on the day so this year we are holding our Christchurch Meeting in a much larger venue which can take 1200 people. We will be returning to the same venue as last time for our next Tauranga meeting. We have an all new presentation for 2005 so please don't think there won't be anything of interest to you just because you have been to a meeting before. Lions International are going to be at both venues again to give you a cup of tea or coffee after the meeting - this is the time to meet other people with glaucoma or ask our presenters more questions.

Christchurch

Christchurch Boys' High School

Auditorium

Straven Road

Saturday 11th June, 10.00-11.30 am

Speakers will be Christchurch glaucoma experts
Dr Ken Tarr and Dr Allan Simpson.

Tauranga

Compass Community Village

17th Avenue West

Saturday 18th June, 10.00-11.30 am

We look forward to seeing our BOP friends and members.

The Trustees and Sponsors of

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Assoc Prof Helen Danesh-Meyer

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John Bishop

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