



# OrBits

**“The Victorian Branch of the Australian Ophthalmic Nurses Association aims to provide and communicate current information from a variety of clinical aspects including nursing, medical and allied health professionals”**

## New Models of Care

Under the auspices of Professor

Jonathon Crowston, head of the Glaucoma Unit @ the Royal Victorian Eye and Ear Hospital (RVEEH) funding for a 6 month trial to train a multi-disciplinary allied health team, consisting of Ophthalmic nurses, Orthoptists and Optometrists, to assess and examine glaucoma patients was approved by the RVEEH board in June 2007, a second round of funding was obtained for further 26 months this year. The Friday morning clinic starts with a half hour tute to test and develop their knowledge, practitioners then examine 4-5 patients during the session.

They also assesses patient treatment compliance, and discusses how their vision is affecting their lifestyle. The responsibility of the practitioner is to examine the anterior chamber and angle, measure the intra-ocular pressure (IOP), dilate the pupil, examine the fundus, consider treatment options, record then report the findings to an Ophthalmologist who verifies the findings and determines ongoing care. All members of the team are expected to perform all functions.

I sat in with three members of the team; orthoptist Dr Linda Malesic PhD, a lecturer in Clinical Vision Sciences @ LaTrobe University, who has been involved since the programs' inception, thoroughly enjoys the "hands on" aspect plus the enhanced clinical skills she is acquiring. David Wakefield RN, works in OPD and Emergency at RVEEH, joined the team this year and was working with Linda to develop his skills. He completed a Post-graduate certificate in Ophthalmic Nursing last year and finds the

clinic both "...challenging and stimulating... acquiring new skills and knowledge increases his job satisfaction and he feels it is a step in the right direction for nursing... "

I also sat in with Sandra Clews RN, who has emigrated from England where she ran a pre-op cataract clinic. Sandra has also been involved from inception and "...looks forward to Fridays because the clinical component and patient contact is so satisfying... she is maintaining and building on the skills she developed in England..."

With the worsening accessibility to public health new models of care are required to ensure timely access to care, using nurses and other allied health workers with appropriate education is one of the solutions. This trial is just the beginning and is leading the way.



### This Issue:

- P1 Presidents Letter
- P2 Retinal Nerve Fiber Layer & GDx
- P2 GDx
- P3 Call for conference abstracts
- P3 CERA Clinical depression questionnaire

## Presidents Letter

I would like to wish a Happy New Year to all members across Victoria as well as members in other AONA groups in Queensland, Western Australia and N.S.W. I hope it brings good fortune and plenty of exciting ophthalmic opportunities for everyone.

The Victorian committee is getting together another exciting year for you all. We're starting off the year with a one day clinical meeting & workshops in Warrnambool - so if you are near Warrnambool or enjoy the racing scene come and enjoy Warrnambool in May. (it will be held the weekend after the Warrnambool cup)

This is also the year for our bi - annual conference and we are tentatively planning to hold it at the same time as RANZCO, so pencil in the date of November 22<sup>nd</sup>. The flyer and call for abstracts will be out in the next month.

This last week we had our first teleconference committee meeting and plan to hold them bi-monthly to encourage regional members to join the committee - so if you have some spare time join us for an hour every 2 months ....please join.

We are continuing to participate in the National Co-Ordination Committee projects of the National competencies framework, and this president's letter will be part of the first national newsletter - so all members will get a picture of what is happening across Australia - Ophthalmically speaking anyway. I think this is timely as we approach National registration and the continuing changes in nursing education and health service provision. Ophthalmic nurses need to be sharing and working together to inform others about the specialty practice, here and internationally. We may be leading the way in areas and not know it. Patients know we are doing good things in ophthalmic care but do our other nursing colleagues

For our next newsletter in June we would love to hear how your workplace celebrated the work of Ophthalmic nurses.

Looking forward to meeting new faces and seeing old ones at the clinical meetings and conference.

*Pam Armstrong*

President  
AONA (Vic)

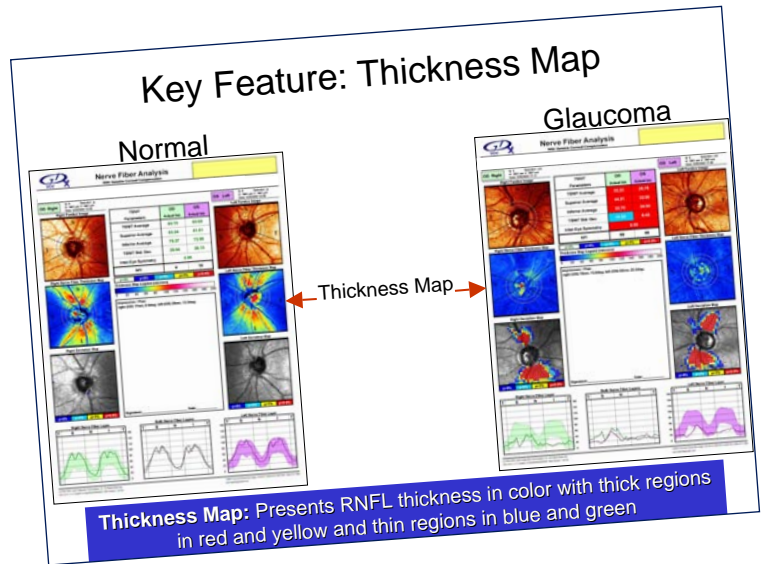
## Diagnostic Accuracy of the GDx VCC for Glaucoma.

**PURPOSE:** To determine the diagnostic accuracy of the GDx VCC in the diagnosis of glaucoma. **DESIGN:** Prospective, comparative, observational, clinic-based case series. **PARTICIPANTS:** One eye each of 77 healthy subjects and 162 patients with primary open-angle glaucoma of Caucasian racial origin. Healthy subjects had normal visual fields (VF's), healthy-looking optic discs, and intraocular pressures of  $<$  or  $=$  21 mmHg in both eyes. Glaucoma patients had a reproducible glaucomatous VF defect and a glaucomatous appearance of the optic disc in at least one eye. **METHODS:** All subjects were measured with the GDx VCC with an automated variable corneal compensator. We constructed receiver operating characteristic (ROC) curves for all available parameters. Subsequently, we calculated sensitivity, specificity, and multilevel likelihood ratios for the best discriminating parameter in the entire group. In addition, we calculated sensitivity and specificity in patients with mild, moderate, and severe glaucomatous damage separately.

**MAIN OUTCOME MEASURES:** Software-derived parameters TSNIT (temporal, superior, nasal, inferior, temporal) Average, Superior Average, Inferior Average, TSNIT Std. Dev. (standard deviation), and Nerve Fiber Indicator (NFI). **RESULTS:** The areas under the ROC curve for TSNIT Average, Superior Average, Inferior Average, TSNIT Std. Dev., and NFI were 0.93, 0.94, 0.90, 0.92, and 0.98, respectively. For the best discriminating parameter NFI, the sensitivity and specificity with a cutoff point of  $>$  or  $=$  40 were 89.0% and 95.9%, respectively. The multilevel likelihood ratios for glaucoma were 0.07 at NFI values of  $<$  35, 1.30 at values between 35 and 44, and 61.50 at values of  $>$  or  $=$  44. At the cut off level of  $>$  or  $=$  40, the sensitivities of the NFI for correctly identifying glaucoma patients with mild, moder-

ate, and severe damage were 83.8%, 92.9%, and 90.1%, respectively.

**CONCLUSIONS:** The GDx VCC allowed easy, rapid, and accurate discrimination between healthy and glaucomatous eyes. The



NFI was the best discriminating parameter. The GDx VCC seems to fulfill criteria for a glaucoma screening device.

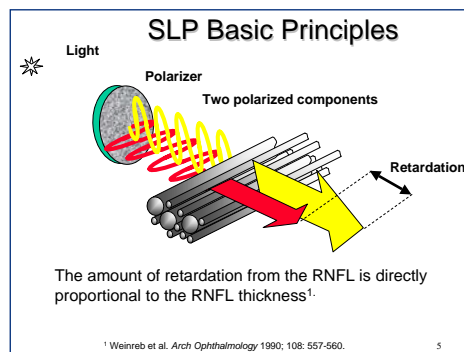
<http://www.ncbi.nlm.nih.gov/pubmed/15465547?dopt=Abstract>  
["http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Reus%20NJ%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed\\_ResultsPanel.Pubmed\\_RVAbstract"](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Reus%20NJ%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVAbstract) Reus NJ,  
["http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Lemij%20HG%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed\\_ResultsPanel.Pubmed\\_RVAbstract"](http://www.ncbi.nlm.nih.gov/sites/entrez?Db=pubmed&Cmd=Search&Term=%22Lemij%20HG%22%5BAuthor%5D&itool=EntrezSystem2.PEntrez.Pubmed.Pubmed_ResultsPanel.Pubmed_RVAbstract) Lemij HG.  
 Glaucoma Service, The Rotterdam Eye Hospital, Rotterdam, The Netherlands. [reus@oogziekenhuis.nl](mailto:reus@oogziekenhuis.nl)

## Retinal Nerve Fibre & GDx

The retinal nerve fibre layer (RNFL)

is made up of highly ordered parallel axon bundles. These axons contain microtubules, cylindrical intracellular organelles with diameters smaller than a wavelength of light. The highly ordered (parallel) structure of the microtubules is the source of RNFL bi-refringence. Bi-refringence is the splitting of a light wave by a polar material into two components. These components travel at different velocities, which creates a relative phase shift. The phase shift is termed retardation. The amount of phase shift or retardation is proportional to the thickness of the RNFL. Both the cornea and lens structures create bi-refringence but the latest scanning device has an inbuilt compensa-

tion technology to remove the anterior chamber bi-refringence, enabling a more accurate RNFL image. The basic principles of Scanning Laser Polarimetry are polarized light passes through the eye and is reflected off the



retina. Because the RNFL is bi-refringent, the two components of the polarized light are phase shifted relative to each other (retarded). The amount of retardation is captured by a detector, and converted into thickness (microns). Two images are

generated, a reflective image, from the light reflected back from the retina and a retardation image which is a map of the retardation values converted to RNFL thickness values.

The scanning laser polarimeter is a confocal scanning laser ophthalmoscope with an integrated ellipsometer to measure retardation. Retinal scanning laser polarimetry (SLP) determines the RNFL thickness, point by point in the peri-papillary region, by measuring the total retardation in the light reflected from the retina. The RNFL retardation measured by SLP correlates with RNFL thickness determined by histology. **HYPERLINK**  
["http://www.meditec.zeiss.com/C125679E0051C774/Contents"](http://www.meditec.zeiss.com/C125679E0051C774/Contents)  
[http://www.meditec.zeiss.com/C125679E0051C774/Contents/Frame/2BF7095D5578B41D882572430063F9ADSHAPE\\\*MERGEFORMAT](http://www.meditec.zeiss.com/C125679E0051C774/Contents/Frame/2BF7095D5578B41D882572430063F9ADSHAPE\*MERGEFORMAT)

## Catch glaucoma early with precise Retinal Nerve Fibre (RNFL) analysis.

The GDx(Glaucoma Diagnosis) provides highly reproducible, objective measurements of the RNFL(Retinal Nerve Fibre Layer) to detect structural changes early. It then compares these measurements to an age-stratified, multi-ethnic normative database, providing you with a unique visual representation. It also uses neural network techniques to calculate a unique Nerve Fibre Index (NFI) to determine the likelihood of glaucoma. A recent study found that the NFI can differentiate between normal eyes and glaucomatous

eyes before visual field loss with sensitivity and specificity of 83% and 82%, respectively<sup>1</sup>.

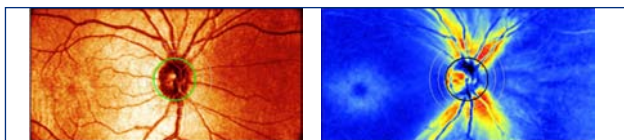


Figure 2.2. The two images generated by the GDx VCC. The left image is the reflectance image, which is displayed as a colored intensity map (greater reflectance corresponds to a lighter color). The right image is the retardation map converted to RNFL thickness. The RNFL thickness is color-coded based on the color spectrum, with thinner regions displayed in blue and green and thicker regions displayed in yellow and red.

**“Eyes for Africa”**  
**12<sup>th</sup> March - fund raiser**  
 " [julietyers@eyesforafrica.org](mailto:julietyers@eyesforafrica.org)

### Calendar

**3rd May 2008**  
Warrnambool, Ryot St

**21st June 2008-**  
AONA NSW - Conference  
[www.aonansw.org.au](http://www.aonansw.org.au)

**20th August 2008**  
AONA Queensland conference  
[www.aona.org.au](http://www.aona.org.au)

**8th October 2008**  
World Sight Day

**November 2008**  
AONA Victoria Conference

**22nd November 2008**  
RANZCO

## AONA, Victoria Bi-annual Conference November 2008

Mark your diaries

We are calling for abstracts from those interested in presenting at our conference or creating posters. These need to be submitted by June 2008 for consideration

## Rotary Club

call for obsolete equipment to be sent to Cambodia to set up a Paediatric Ophthalmic clinic  
 email Julie D'Arcy – ["rmjdarcy@optusnet.com.au"](mailto:rmjdarcy@optusnet.com.au)

## Orbis FEH

*Use your talents to participate in ORBIS's mission to reduce blindness in developing countries worldwide.*

The ORBIS Flying Eye Hospital (FEH) is a unique mobile teaching and operating facility on board a DC-10 jet aircraft that travels to developing countries worldwide to share the gift of sight. Our Flying Eye Hospital staff travel up to 45 weeks per year and anywhere from a few weeks to 3 months at a time. For more information about ORBIS and this employment opportunity, please visit our website: ["www.orbis.org"](http://www.orbis.org)

To apply, email your cover letter to [HR@orbis.org](mailto:HR@orbis.org)

### AONA, Victoria Committee

<b>President</b>	<b>Vice President</b>
Pam Armstrong	Tim Puyk
<b>Treasurer</b>	<b>Media</b>
Robyn Johnston	Pat Usher
<b>Membership Sec</b>	<b>Education Sec</b>
Kris Spence	Gerard Walsh
<b>Committee</b>	
Gail McCombe	<a href="http://www.aonavic.com.au" style="color: white;">www.aonavic.com.au</a>

**CERA Depression Questionnaire**  
 in conjunction with AONA Victoria  
 We need as many responses as possible –  
**98 members = 98 responses**



**Warrnambool Clinical meeting**  
 3rd May, 10.00 @  
 South Western Health, Ryot St, Warrnambool  
 contact Paula Touzeau -03 55631 668