

Our stories

Annual Review 2017–18



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CEO welcome



On behalf of our dedicated staff and Board, I am proud to present the 2017–18 Annual Review.

This past year we have continued to develop and enhance the clinical service we provide to deliver the safest, best quality care to our patients and their families.

In October 2017, we passed the National Safety and Quality Health Service (NSQHS) accreditation. The 10 NSQHS Standards provide a nationally consistent statement about the level of care consumers can expect from Australian health services. They drive the implementation of safety and quality systems and improve the quality of health care in Australia.

The accreditors' feedback was extremely positive; they highlighted our culture of collaboration, consumer engagement, hospitality and commitment to safety.

Other highlights for the year included celebrating the opening of the state's first regional cochlear care centre in Geelong; acquiring new state of the art ophthalmology surgical simulators to assist with clinician training; continuing world leading research into Aged Related Macular Degeneration; and being awarded the Premier's Large Health Service of the Year in the Victorian Public Healthcare Awards.

Caring for the senses

The Eye and Ear is Australia's only specialist standalone eye, ear, nose and throat (ENT) hospital. Every year we see around 220,000 patients and we continue to deliver world class care amidst the ongoing redevelopment project.

I'd like to thank patients, volunteers and staff for their patience and understanding as we work towards the redeveloped hospital.

Embracing diversity

Many of our patients come from culturally and linguistically diverse (CALD) backgrounds; and we are constantly looking for ways to better communicate to these patients and their families.

This year we launched an audio file service to provide consumers with helpful information in an accessible format and in multiple languages. You can read more about these projects inside.

Fostering a culture of teaching and research

The Eye and Ear is internationally recognised as a leader in clinical service delivery, as well as teaching and research in both ophthalmology and otorhinolaryngology.

This is backed up by our accreditation from relevant colleges including The Royal Australian and New Zealand College of Ophthalmologists, The Royal Australian College of Surgeons, The Royal Australian and New Zealand College of Anaesthetists and the Royal Australasian College of Emergency Medicine.

The hospital has a strong culture of research, with more than 200 active research projects with our partners, including Centre for Eye Research Australia (CERA), the University of Melbourne, the Bionics Institute, Bionic Vision Australia, HEARing CRC and Monash University.

I'd like to thank our valued partners, stakeholders and collaborators – without you none of this would be possible. I hope you enjoy reading these stories from 2017-18.

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Mark Petty Chief Executive Officer

Our patients



220,000



LANGUAGES TRANSLATED BY OUR INTERPRETERS



Dynamic duo Coral and Joan

Our volunteers are vital in many aspects in the daily running of our hospital, but one that stands out is the genuine care they provide our patients – especially the elderly.

They provide personalised care that helps reduce anxiety and improve patient experience. This is more than just a service, it is a partnership.

One such partnership is the dynamic duo of patient Joan Oates and long-time volunteer Coral Reid. Joan has been coming to the Eye and Ear for treatment for macular degeneration for 12 years. In 2018, she will turn 90.

She was officially diagnosed at the Eye and Ear, and on that same day she met Coral.

Joan says "I was pretty devastated about losing vision in one eye, but Coral was so reassuring, telling me I was in the best place for treatment.

"She works very hard for the patients; she is always here for them."

Joan attends our specialist clinics at Eye and Ear on the Park regularly for treatment for age related macular degeneration. She used to attend with her husband, but is now driven by community transportation.

When Joan arrives, she is greeted warmly by an Eye and Ear volunteer – they all seem to know her by name – and helped to her appointment.

"I have made some good friends attending the clinic for twelve years," she says. "The fact that most of these people are still here says a lot to me."

Coral has been a volunteer here for almost 10 years and enjoys connecting to the community and providing "quality of life care".



"Joan could be me. I hold on to the perspective that a patient could be me, or my family member, needing reassurance."

Coral volunteers as a concierge and also supports patients through their journey at our outpatients' clinics. She acts as a patient advocate, ensuring each patient arrives to their appointment in a relaxed, comfortable and confident condition, knowing they have the right to ask questions.

Coral tries her best to alleviate the anxieties many patients face.

"You may just need to acknowledge the effort they've already made to get to the hospital," she says.

Coral also chats with patients while they wait, many who look forward to catching up with her at their next visit.

"We become their friend at the hospital," she says. "You can't always predict what each person needs. Sometimes it's something as simple as saying hello and being recognised by you."

Coral is part of a passionate and diverse team of volunteers and her involvement is broad and invaluable. She has been on the Consumer Advisory Committee for two terms as a consumer representative, and is a member of numerous committees and groups, looking at changes and improvements from the consumer perspective including the redevelopment project and outpatient clinics improvement projects. She also reviews patient information fact sheets to make sure they are user friendly and mentors new volunteers.

Joan and Coral's story is just one example of how volunteers touch the lives of many patients at the Eye and Ear.

Infolines:

You can access the audio lines by calling the numbers below:

English 1. 03 9929 8391 2. 03 9929 8471

廣東話 (Cantonese) 1. 03 9929 8493 2. 03 9929 8163

Ελληνικά (Greek) 1. 03 9929 8492 2. 03 9929 8972 Italiano (Italian) 1. 03 9929 8064 2. 03 9929 8574

普通话 (Mandarin) **1. 03 9929 8975**

2.0399298695

Tiếng Việt (Vietnamese) 1. 03 9929 8176 2. 03 9929 8256

Removing barriers for our multicultural patients

Imagine navigating the processes of attending hospital appointments in your second - or even third - language. Perhaps you can't read the language on the website, or understand what the person on the phone is saying. Understandably you would be a little anxious.

This can be the reality for many of the 26% of Victorians (more than 1.5 million) who speak a language other than English at home, when they visit a hospital or health service.

At the Eye and Ear we are constantly looking for ways to better communicate with our Culturally and Linguistically Diverse (CALD) consumers.

In 2018 we launched the hospital infolines, a telephone line and online audio file service to provide consumers with helpful information in an accessible format and in multiple languages.

There are two lines: the first includes information about the appointment process, transport, parking and what to expect at an appointment; the second includes information on most common eye conditions, providing feedback, and the Australian Charter of Healthcare Rights.

Currently the infolines are available in six languages, English, Cantonese, Greek, Italian, Mandarin, and Vietnamese. These are the most common languages of our patients.

Eye and Ear patient Bing Huang, whose native language is Mandarin, helped to develop the service and says providing information in an audio format languages is a great help.

"Considering the number of people who have low vision it's a very good thing to have audio information available." Mr Peimao Yan's (picture on left) mother tongue is Cantonese and he attends the Eye and Ear for regular appointments. He emphasises the importance of access to information in his own language; he attends appointments with an interpreter, and says the infolines are another useful tool.

"It's always good to converse with nurses and doctors and access information in my own language, it makes me feel more confident."

Consumer Liaison Officer Deb Hailes, who helped initiate the service, believes it improves the accessibility of patient information for many people, including those who are bi or multilingual, the elderly and also consumers or carers with low vision.

"It's about health literacy and making the hospital experience more userfriendly. We received some feedback that indicated diagnoses and being handed a patient fact sheet can be a rushed process, especially for those who speak a different language or have trouble reading," she says.

"The audio line gives people from CALD backgrounds or who have low literacy the opportunity to revisit and process information. This makes it more of a conversation."

Since it was established the service has been accessed over 2,505 times.

This service was made possible by the generous support of The Louis & Lesley Nelken Trust Fund, managed by Equity Trustees.

Opening of Geelong Cochlear Care Centre helps more to hear

Cochlear implants can be life changing. Just ask Geelong resident Jayson Killick, who has bilateral cochlear implants after losing his hearing as a child due to illness.

"I can hear softer sounds; I can hear music (preferably anything from 50s to the 80s); I used to need to watch TV with subtitles now I rarely do. I can keep up with conversations, talking on the phone is much easier as I can use the phone streamer."

Now, thanks to the opening of Geelong Cochlear Care Centre (GCCC) in February 2018, more Victorians like Jayson will receive the lifechanging assistance they need to hear.

Cochlear recipients in Western Victoria will also be saved hundreds of hours of travel time to attend essential appointments. The centre – a collaboration between the hospital and Cochlear Ltd – is the state's first regional cochlear care centre. Previously, the only centre was in East Melbourne. It's not necessarily common knowledge that living with cochlear implants is a lifelong journey. Beyond the implant surgery there are dozens of appointments to refine the implant, and for recipients to learn, to practice and to become comfortable using the device.

The Geelong centre will help recipients access essential services closer to home – previously they had to take up to 12 trips in the first year to East Melbourne for routine appointments.

Jayson says before the opening of the GCCC he had to travel to Melbourne for his regular appointments for programming, support and medical reviews.

"You would not believe what a difference it has made. I used to have to take days off work to attend appointments. Now it is much easier, it saves so much travel time. I can also drop by if I have questions or need advice."

Eye and Ear Chief Operating Officer and Chief Nursing Officer Jenni Bliss said close to one-infour of the East Melbourne clinic's patients lived more than 100km from the centre.



"This new centre provides a crucial service to the 400 active cochlear implant recipients living in Western Victoria, ensuring that more adults and children can access care without excessive travel time and cost."

In the few months since opening, GCCC patients have come from as far away as Portland, Mt Gambier and Charlton, as well as several from Warrnambool, Colac and Ballarat.

Jayson says "I used to live in Portland and would have to travel four and a half hours each way to Melbourne for appointments."

The centre has the potential to help thousands more Victorians living with hearing loss. Since the opening of the centre less than a year ago they have assessed dozens of people for suitability for cochlear implants. Some might think that cochlear implants are only for young children born profoundly deaf – but this is not the case. People of all ages can fit the criteria for cochlear implant surgery – including those with age related hearing loss.

Jayson attended the centre's official opening and was overjoyed to meet one of his heroes, Professor Graeme Clark AC, the inventor of the multi-channel cochlear implant.

"I ticked that off my bucket list! It was such an honour to meet him and to say thank you."

Jayson has recently trained as a volunteer mentor to prospective cochlear patients, sharing his own story and talking through questions.

"My life has been changed so much, it's great to be able to help guide others through the journey."



Our people



HOURS DONATED BY VOLUNTEERS

+0008



EYE AND EAR EMPLOYEES

930

Informed consent videos

This year we also produced a patient video about informed consent, which encourages our patients to be partners in their healthcare. It reminds them they have the right to ask questions and be fully informed about their condition and suggested treatment and care. This video was also translated in to our five most common languages as well as Auslan. You can see it on our website www.eyeandear.org.au and search 'Informed Consent'.

nton van Heerden

Senior Doctor

Patient information videos for cataract surgery

Attending hospital for surgery – even for a straightforward and common procedure such as cataract surgery – can be a daunting experience for many people. Language or cultural barriers can exacerbate these feelings.

It's part of our job to help reduce this anxiety, to make our patients feel as comfortable and as well informed as possible.

We recently produced a patient information video about cataract surgery, one of the most common procedures we perform here at the Eye and Ear.

In fact, it is one of the most common procedures and safest surgeries in the world.

The aim of the video is to help inform patients about what cataracts are, what will happen in the procedure and potential side effects of the surgery.

One of our senior ophthalmologists, Dr Anton van Heerden, features in the video. Dr van Heerden is Head of Surgical Ophthalmology Service at the hospital and has worked here since 2008.

He says it is a great tool for providing patients with information, and adds to the existing process of seeking informed consent.

"The more information we can provide patients ahead of surgery, generally the less fearful they are. We can try and answer some of the unknowns for them." Many of our patients come from diverse cultural and linguistic backgrounds, and this video has been translated in to five languages: Cantonese, Greek, Italian, Mandarin, and Vietnamese.

While we provide translation services for our patients in a large number of languages, these five languages are the most common.

Dr van Heerden says "Having videos translated in multiple languages is essential at the Eye and Ear – so many of our patients come from different cultural backgrounds and between them speak hundreds of other languages. Many patients require translators so having translated videos help ensure they are well informed and we answer as many of their questions and concerns as possible, in their first language."

The video is not intended to replace a face to face conversation, but is an addition to the consultation with a doctor, where patients will have the chance to ask any questions about the surgery.

These videos were made possible by the philanthropic support of The Ross Trust. They can be viewed on our Vimeo channel: vimeo.com/eyeandearhospital

Putting ourselves in patient shoes

It's our job to care for, diagnose and treat patients. It's also our job to ensure we are listening to our consumers – our patients, their families and carers.

Last year, staff from across the hospital attended a play call 'Hear Me', presented by the Hush Foundation, which tackled one of the biggest issues in the culture of health care today – open communication.

The play used stories and case studies to highlight the issues faced by those working in health care, patients and their families.

Intermittently one of the themes that emerges from feedback received from both patients and carers, is that they don't always feel that they are heard or able to actively participate in discussions about clinical management plans. 'Hear Me' was a chance for our staff to experience a situation from the patient's perspective, and see the impact of poor or overly complex communication.

The performance was followed by a facilitated discussion that looked at ways to improve quality and safety of health care through enhanced communication, collaborative partnerships while building an improved responsive staff culture.

Senior Ophthalmologist, Dr Georgia Cleary, facilitated the discussion and emphasised the importance of open communication and two way conversations.

"There's a risk" she says "that patients can be treated as a diagnosis rather than a person."

She says it's important to remember that you are treating each and every patient as an individual, and giving them a chance to be part of the conversation.



"I look at the tests but also make a point to ask the question: Tell me what your problems are, in your words. Sometimes their words tell a completely different story."

She says sometimes diagnosis and treatment is not as simple as what the referral or test results suggest. In the case of cataracts, tests might indicate that a patient may benefit from surgery, but when asked, they are coping well with their daily activities and may not require surgery after all.

There are also some limitations to the standard vision tests performed in outpatient clinics. Typically eyesight is measured by asking patients to read black letters on a bright white background. This type of testing does not accurately represent visual function in real life situations, when colour, contrast and glare varies significantly.

"When planning for surgery it is essential to have a thorough conversation between doctor and patient, and to consider the legal aspects of informed consent."

The process of informed consent requires patients to understand the procedure they are agreeing to, its risks and benefits, and details of aftercare. Patients must have the opportunity to ask questions.

She says some cases are a little more challenging, particularly when working with people who aren't able to articulate symptoms, for example children, people who are non-verbal or those who rely on their carers. But the key is to find out as much as possible from the individual themselves during a consultation.

Collaborative approach key to success

It's challenging to maintain high quality services in a hospital during a major redevelopment, but that's precisely what many of our teams at the Eye and Ear are doing.

This requires collaboration, communication and creativity. One area where this is particularly evident is when essential services, such as surgery, move location.

Currently our operating theatres and wards are located on different campuses of the hospital. Day surgery is temporarily at Eye and Ear on the Park, while the main operating theatres are located at the Gisborne St. site.

When the redeveloped hospital is complete all operating theatres will be on the one level, as well as the recovery ward. This means that admission, surgery, recovery, and day patient discharge will all happen on the same floor, making things more streamlined for patients and staff. This major move requires huge amounts of planning, and will happen in stages. Work on the peri-operative services model of care, facilitated by our clinical improvement team, aims to prepare staff for these changes, to identify potential problems in advance of the move and to ensure the patient's journey is as smooth as possible.

Focus groups include staff from across the hospital and look at how the new areas will function. How will the patient journey flow, from admissions to theatre, to ward and to discharge? How will staff best work in the area? How will we move equipment around? How can we fix potential problems?

The clinical improvement team facilitated these focus groups. Team member Judy Stinson says it's an opportunity to plan ahead, to look at our processes, to communicate changes to staff and to seek constant improvement to the way we do things.

"It's a chance to challenge the status quo, and ask ourselves 'Is there a better way?" she says. "And not to assume that our current way of doing something is the best."



Part of this work involves stepping staff through how they will adapt to a new working environment.

To do this they have had to get creative. By using large scale maps and Lego people to simulate real world experiences and trial using a space that isn't yet built, the team can identify potential issues.

"When we use the little Lego 'people' it is easier to conceptualise any issues with flow. For example, we can identify that in a certain situation a nurse wouldn't have a line of sight to a patient."

Any concerns are then discussed with the Redevelopment Team.

Elise Chick, Nurse Unit Manager of the Operating Theatres, and Christina Caws, Sterile Processing Service Manager, are both part of the focus group.

Elise says "It's been great working with people from across the hospital – everyone faces different issues and has different viewpoints depending on which area they work in." "Being involved earlier in the planning process means we can give feedback and discuss and future plan against possible issues."

Chris' team looks after the sterilization and transportation of surgical instruments so she is looking at the new plans to see how equipment will move around the new theatres and wards. To put this in perspective, each day Chris' team sterilizes around 2,000 instruments.

She agrees it is vital to be involved in the planning stages.

"You get to hear about everyone's concerns and work through them together."

Judy echoes the importance of including staff from all points in the surgical patient journey in the preparation work ahead of the eventual move.

"The end result is that patient flow and models of care are based on the knowledge and expertise of staff in the area".

eyeConnect saving patients travel and time

The eyeConnect device, which links rural and regional emergency departments with specialists at the Eye and Ear, has now been rolled out to 15 sites statewide and is one of the successful Telehealth initiatives introduced at the hospital. The device takes photos of the eye to create a package of patient clinical data including visual acuity information and images. Since the launch, 63% of patients have been managed at their local hospital with support from local optometrists, ophthalmologists and GPs, representing a saving of 41,000kms of travel.

Simple telehealth initiatives make the world of difference

Cataract surgery is one of the most common procedures we perform here at the Eye and Ear. Most of the time, it is a day procedure and patients can go home that same day.

To ensure recovery is going according to plan, patients need a follow up appointment – this means either returning to the hospital in person or an appointment on the phone.

Since the start of the year we have been trialling running these cataract post-operative (CPO) follow up appointments as video calls between nurses and patients, with overwhelmingly positive feedback.

Nurse Mary Matti carries out CPO appointments as a regular part of her role, and now does a number of these by video calls. She says there are many benefits:

"Telehealth is really positive, especially when the carer and family member can be involved on the video call.

"Through the use of telehealth, physically examining the patients' facial reaction is possible, therefore, nurses are able to make clinical decisions based on the information provided by the patient as well as what they can see." "Patients have been really positive about it so far. It also avoids unnecessary travel, which is especially important for elderly patients or those with mobility issues."

One of the keys to success of this project is the simplicity of the set up. All a patient needs is internet access and a computer, tablet or smartphone. The software is relatively straightforward, removing barriers for those who are not tech savvy.

Patient Services and Access Manager Kathryn Day coordinated this telehealth trial and credits the dedication, persistence and willingness of staff to embrace the new system.

"Clerical and nursing staff were open to introducing telehealth and were flexible as we worked through the processes," she says.

"The system is very user friendly and because we have tried to model the telehealth process on the 'normal' process for nurse phone calls this has made it easier for everyone.

Patients that I have spoken to have been happy that they can 'see' someone for their consultation from home or work and were grateful to be given the option – without the unnecessary travel."

Work continues investigating the use of telehealth initiatives in other clinics.

Our Senior Medical Staff

Directors*

Dr Caroline Clarke Executive Director, Medical Services, Chief Medical Officer Dr Jason Goh Director, Medical Services Mr David Marty Clinical Director of ENT Services and Head of Rhinology Dr Mark McCombe Clinical Director, Ophthalmology Services Dr David Ware Director of Anaesthesia Dr Carmel Crock Director, Emergency Department

Heads of Clinic

Assoc Prof. Robert Briggs Head, Otology and Cochlear Implant Assoc Prof. Anne Brooks Clinical Lead, Acute Ophthalmology Services and Head, Special Eye Clinic 3 Assoc Prof. Penelope Allen Head Vitreoretinal Unit Assoc Prof. Susan Carden Head, Education Vision Assessment Clinic Ms Anne Cass Head, Head and Neck Assoc Prof. Mark Daniell Head, Cornea Dr Catherine Green, AO Head, Glaucoma Dr Alex Harper Head, Medical Retina Dr Lionel Kowal Head, Ocular Motility Assoc Prof. Lyndell Lim Head, Ocular Immunology Dr Anton van Heerden Head Surgical Ophthalmology Service Dr Christine Tangas Clinical Lead, Surgical Ophthalmology Service Dr Robyn Troutbeck Clinical Lead, Acute **Ophthalmology Service** Dr John Manolopoulos Clinical Lead, Surgical Ophthalmology Service Mr David Marty Head, Rhinology Dr John McKenzie Head, Ocular Oncology Assoc Prof. Alan McNab Head, Orbital Plastic and Lacrimal Clinic Mr Halil Ozdemir Chair, Senior Medical Staff **ENT Section** Ms Elizabeth Rose Head, Paediatric ENT

Dr Marc Sarossy Head, Ocular Diagnostics Dr Neil Shuey Head, Neuro-Ophthalmology Dr David Szmulewicz Head, Balance Disorders and Ataxia Service Dr Edward Roufail Chair, Senior Medical Staff Eve Section Assoc Prof. Diane Webster Clinical Lead, Surgical Ophthalmology Services Dr Kristen Wells Clinical Lead, Acute Ophthalmology Services Dr Stephen Parnis **Emergency Physician**

Ophthalmologists

Dr Suheb Ahmed Dr Alex Amini Dr Brian Ang Dr Alicia Wai Pheng Au Dr Renuka Bathija Dr Jacqueline Beltz Dr Roland Bunting Dr Benjamin Burt Dr William Campbell Dr Dermot Cassidy Dr Elsie Chan Dr Ye Chen Dr Daniel Chiu Dr Au Chun Ch'ng Dr Elaine Wei-Tinn Chong Dr Li Ping Chow Dr J Ben Clark Dr Georgia Cleary Dr Amy Cohn Dr Benjamin Connell Assoc Prof. Michael Coote Dr Joan Cosgrove Dr Rodger Davies Dr Rosie Dawkins Dr Lana Del Porto Dr Fio De Vincentis Dr Joanne Dondey Dr Tricia Drew Dr Thomas Edwards Assoc Prof. Rohan Essex Dr David Fabinyi Dr Xavier Fagan Dr Lisa Farber Dr Kevin Foo Dr David Francis Dr Justin Friebel Dr Brent Gaskin Dr Jennifer Fan Gaskin Dr Trevor Gin Dr Padmini Gnanaharan Dr Nishant Gupta Professor Robyn Guymer, AM Dr Thomas Hardy Dr Rebecca Haward Dr Oded Hauptman Dr Alex Hewitt Dr Michael Jamieson Dr Nathan Kerr Dr Jwu Jin Khong Dr George Kong Dr Gary Leber Dr Wen Lim Dr Troy Lim Joon Dr Ming-Lee Lin Dr Cecilia Ling Dr Lance Liu

Dr Ross MacIntyre

Dr Wendy Marshman Dr Bryan Matthews Dr Daniel McKay Dr Jonathan Moodie Dr Ching Hui Ng Dr Thanh T Nguyen Dr Szczepan Nowakowski Dr Terrence Ong Dr Nima Pakrou Dr Pathmanathan Pathmaraj Dr Zelda Pick Dr Dustin Pomerleau Dr Alexander Poon Assoc Prof. Salmaan al-Qureshi Dr Jonathan Ruddle Dr Joseph San Laureano Dr Sukhpal Singh Sandhu Dr Khami Satchithananthan Dr Hakki Semirli Dr Andrew D Shaw Dr Justin Sherwin Dr Shivanand Sheth Dr Simon Skalicky Dr Richard J Stawell Dr Helene Steiner Dr Mark Steiner Dr Charles Su Dr Laurence Sullivan Dr Mei Hong Tan Dr Tu Anh Tran Professor Rasik Vajpayee Dr Fave Walker Dr Mark Walland Dr Harry Wenas Dr Mark Whiting Dr Sanjeewa Wickremasinghe Dr Elaine Wong Dr Heathcote Wright Dr Jonathan Yeoh Dr Aaron Yeung Assoc Prof. Ehud Zamir

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Anaesthetists

Dr Matthew Acheson Dr Ju Pin Ang Dr Peter Ashton Dr Glenn Bakyew Dr Jacob Boon Dr Michael Boykett Dr Andrew Braun Dr Linda Cass

Dr Jun Keat Chan Dr Anne Chenoweth Dr Stephen Chester Dr Melinda Chouman Dr Elizabeth Coates Dr Suzv Cook Dr Iresha Dissanayake Dr Gavin Doolan Dr Duncan Forbes Dr Natalie Gattuso Dr Alexander Gershenzon Dr Grace Gunasegaram Dr Douglas Hacking Dr Melissa Haque Dr Gaylene Heard Dr Sean Hearn Dr William Hurley Dr Joseph Isac Dr Zoe Keon-Cohen Dr Jennifer King Dr Sarah Kondogiannis Dr Daniel Lane Dr Joshua Lau Dr Ei Leen Lee Dr Ana Licina Dr Lisa Lin Dr John Lioufas Dr Vaishali Londhe Dr Sarah Madden Dr Kameel Marcus Dr Craig Morgan Dr Al Motavalli Dr Bishoy Moussa Dr Sailesh Murty Dr Lisa Nasis Dr Michelle Natividad Dr Igor Oleinikov Dr Dayalan Ramasamy Dr Peter Read Dr John Riseborough Dr Mhousci Scanlan Dr Peter Seal Dr Sharan Sidhu Dr Peter Snider Dr Mark Suss Dr David Tan Dr Michael Tsiripillis Dr Andrew Tymms Dr Andrew Walpole Dr Crispin Wan Dr Margaret Watson Dr William Watson Dr Daniel Wong Dr Andrew Wyss Physicians Dr Julian Bosco

Dr Anthony Fok Dr Timothy Godfrey Dr Gayatri Jain Dr Caroline Jung Dr Lauren Sanders Dr Michael Tan Dr Anneke van der Walt Dr Christine Wools

GP Liaison

Dr Lina Nido **Emeritus Consultants** Dist. Professor Graeme Clark, AC Dr Julian Heinze Dr Kevin John Kane Assoc. Prof Justin O'Day, AM Professor Hugh Taylor, AC Dr John Thomson Dr Brian Pyman

*As at 16 October 2018

Teaching & research



NEW PROJECTS APPROVED



ACTIVE RESEARCH PROJECTS

202

57

0



State of the art teaching technology

The recent acquisition of two new state-of-the-art technologies is ensuring that the Eye and Ear continues as a global leader in eye surgery and training for the next generation of eye surgeons.

The hospital acquired two Eyesi Surgical simulators in early 2018, to allow ophthalmology trainees to practice highly specialised microsurgery skills in a safe and controlled environment.

Dr Jacqueline Beltz, ophthalmologist at the Eye and Ear and Director of Training for the Victorian Branch of the Royal Australian and New Zealand College of Ophthalmology, says the main aims of virtual reality training are to improve patient outcomes, reduce complication rates and improve surgeon's skills and confidence.

"Practice is vital to learn any skill, and microsurgery is no exception. Virtual reality simulation provides a setting that forgives failure and allows trainees to develop fine motor skills as well as learn from their errors without causing harm."

"Studies have shown that patient outcomes are improved when trainees have undertaken virtual reality training".

Virtual reality simulation training is now used alongside traditional training methods including wet and dry labs to increase the breadth of surgical training for young ophthalmologists.

Dr John Rocke, a first year Registrar at the Eye and Ear is one of the first trainees to have had the opportunity to train on the simulators.

"It's been a great chance to get foundation knowledge of cataract surgery. I felt really confident after doing the VR training. I've done real cataract surgeries now, and the simulators are very similar to real life – the way the eye moves and feels is similar." "It's a stress free opportunity to practice surgery techniques and skills. You can increase confidence and skills in a safe and controlled manner, and refine techniques" he says.

The Eyesi simulators are used for training at leading eye hospitals and universities globally and the Eye and Ear is the first Victorian hospital to use this technology.

In an Australian first, the Eye and Ear is also using 3D technology to improve vitreoretinal surgery techniques, performed deep inside the eye's interior, with the NGenuity 3D Visualisation System.

The system uses a 3D camera and 3D 4K OLED monitor to capture and display the operating field, providing the entire operating team with high-definition three-dimensional visualisation of the retina during surgery.

The NGenuity system replaces the traditional binocular microscope, giving surgeons depth perception not previously possible, as well as clearer visualisation of the back of the eye.

The microscope-free device offers unique opportunities to improve patient, surgeon and trainee experiences. Trainee surgeons can observe a real-time 3D image of the surgeon's actions, a patient's eye is exposed to less light – it also improves the surgeon's posture and can minimise fatigue.

Former Head of the Eye and Ear Vitreoretinal Unit, Dr Willie Campbell said "The NGenuity provides an unparalleled view of the operative field and minimises light-exposure to the eye, which ultimately improves the outcome for patient."

Both technologies were funded by generous philanthropic donations.



Jenny

Virtual testing making life easier

For many of us, mobile phones can be a blessing and a curse. In some instances at the hospital, they are making life easier for our patients and staff.

The team at our Balance Disorders and Ataxia Service (BDAS) is currently carrying out research to improve the method of testing 'subjective visual vertical', which assesses your ability to perceive verticality.

In layman's terms, this means the ability to tell if a painting on the wall is straight. If your ability to judge verticality is off, then it can point to vestibular lesions.

Using the existing testing system, a patient sits in a chair in a completely dark, custom designed room. A red line appears on a screen in front of them, which they adjust until they perceive it as horizontal using a remote.

Since last year, the BDAS clinic has been trialling a new testing model using a virtual reality headset connected to a smart phone and a software application 'Curator SVV'. The patient puts on the goggles, and then sees ten images of well-known artworks, such as the Mona Lisa. They then use a simple remote control to adjust the tilt of the paintings until they appear straight.

As a method of testing, it ticks many key boxes in that it is objective, non-invasive and affordable.

Eye and Ear audiologist Jenny Nguyen carries out vestibular testing as part of her daily role. She says the new system is easier for patients and staff alike.

"No special room is required; the goggles can be brought to the patient, saving time and inconvenience – and looking at artwork is more interesting than a red line!"

Testing of vestibular function helps to identify any vestibulopathy, which is a weakness on one side of the inner ear balance organ, and can tell specialists if this part of the balance is involved in their dizziness. This testing can be complex and lengthy, requiring up to six different tests, so any advances to help streamline the testing is a plus.

These tests are used to help diagnose various balance disorders – many of which can be seriously life affecting.

The BDAS clinic is Australia's only multi-disciplinary comprehensive clinical service dealing with conditions affecting balance. Our team of specialists work to diagnose and manage dizziness, vertigo and imbalance from the ear to brain.

The clinic is headed up by Dr David Szmulewicz, who says "The development of novel balance testing equipment has been accelerating over the past decade. We're happy to be working with our collaborators at the University of Sydney to be at the forefront of these important developments. Two key aims are to carry out clinical research and to offer patients cutting edge technology in the assessment and management of balance disorders, so this project has a perfect fit with our priorities. Translating research discoveries into improvements in our patients' health is part of what gets us out of bed in the mornings!"

Jenny says "I love the chance to use new equipment and technology and being at the forefront of balance research in Australia."

"When people are coming in for balance testing they often think balance beams – not virtual reality goggles."

Analysis of the virtual reality testing is ongoing. If the research confirms accuracy of testing then the method will be implemented into standard practice at the hospital this year.

Dr Shivesh Doctor

Public health messages

No two days in our busy Emergency Department are the same, but the team does have the chance to see recurrent injuries and identify emerging trends. These observations often lead to research, and to promotion of important public health messages, which work towards prevention and better treatment.

ED Director Dr Carmel Crock says "It is part of our role to try and identify common injuries, and educate people both on how to avoid them and to let them know when they need to come to see us as a specialist hospital, or when they can be cared for by their GP."

One example is when the team observed increased cases of bird related eye injuries, which inspired research and a public health awareness campaign.

The paper 'Bird Related Injuries at the Royal Victorian Eye and Ear Hospital, Melbourne' found that from 2012-17 cases presenting to our ED increased by more than 600%.

While bird related eye injuries still make up a very small percentage of overall ED patients, study author Dr Thomas Campbell noted these injuries were "becoming increasingly frequent, peak in the winter months and are most commonly caused by the magpie".

"The study suggests that given the increasingly common nature of these injuries, more efforts could be made to educate the public about the dangers of swooping birds and what steps can be taken to reduce the chance of injury."

A cluster of bird related eye injuries in October last year led to a media campaign, warning people of the dangers of swooping birds and tips on how to avoid injury.

Another example is a recent spike in ear injuries caused by the yucca plant was noted in our ED,

with some cases leading to hearing loss, it inspired research into these injuries.

The study 'Garden Terror – Case series of twentyeight serious ear injuries caused by yucca plants' was published earlier this year in UK journal Clinical Otolaryngology.

One of the paper's authors, the Eye and Ear's Professor Stephen O'Leary says "The needle-like spine of the yucca's leaf can penetrate the inner ear, causing serious ear injuries and, in some cases, severe hearing loss".

This also led to a media campaign, aiming to increase awareness about when it was necessary to come to the Eye and Ear.

"The risk of damage to your ears from yucca spikes is serious and potentially long lasting. We also urge GPs to refer patients with these injuries to a specialist as soon as possible for further investigation."

Aside from flora and fauna, a significant number of eye injuries we treat in our ED are caused by lack of proper eye protection – and many of these would have been prevented by wearing appropriate protection such as safety goggles.

Dr Crock says eye safety is vital when doing any activity that involves chemicals or materials that can break and fly in to your eye. This doesn't just mean power tools, but all types of DIY including hammering and using cleaning products such as bleach.

"We want to encourage people to be alert to their surroundings, and start conversations that raise awareness of potential dangers. The research is important as it is a chance to improve accuracy of diagnoses and patient outcomes."

Improving language development outcomes in children

The ability to hear speech in early life is vital for language development. The Eye and Ear's Clinical Associate Professor Robert Briggs and Professor Colette McKay, Leader, Translational Hearing Research at the Bionics Institute, are working together on research that aims to help improve language development in deaf children.

The study looks at using a brain imaging technique called functional near-infrared spectroscopy or 'fNIRS' to map brain activity related to sound processing. Research has already been carried out with adults and now funding secured from the Garnett Passe Conjoint grant in early 2018 will allow this research to be extended to hearingimpaired infants and children.

The researchers believe that the imaging technique can be developed into a clinical tool to improve the fitting of hearing devices (cochlear implants and hearing aids) in those too young to provide behavioural feedback. Colette says "We know that the longer you wait to give a baby sound the longer it takes for them to catch up and learn what sounds mean. The earlier the intervention the better the outcomes will be, and our new method of accurately assessing hearing will speed up the process of optimising each infant's hearing with their hearing aid or implant".

Despite early intervention, some hearing-impaired children miss out on hearing speech sufficiently well during the critical stages of brain development and are thus unable to develop language optimally. If assistive devices are not accurately fitted and programmed at the earliest age possible, this will contribute to their language delay. The researchers are hopeful that the child-friendly fNIRS brain imaging method will help bridge this gap by ensuring that hearing devices are working properly for every infant.



As part of Australia's universal newborn hearing program, hearing is usually tested in the first days of a baby's life. The screening program was started because research showed that early identification of hearing loss in children, and subsequent early intervention, resulted in better speech and language outcomes. If this initial screening test points to potential issues with hearing, the baby is referred to an audiologist for full diagnostic tests.

At this early age behavioural responses are not reliable for accurate hearing assessment, and objective measures must be relied upon. Currently, the diagnostic hearing test uses an auditory brainstem response, which measures the electrical signals of hearing nerves in the brainstem. However, there are limitations to this testing: it doesn't work for a proportion of infants and it cannot tell if the infant is able to distinguish between sounds. By combining fNIRS measurements with the auditory brainstem response, these limitations can be overcome. Colette says "With the fNIRS testing, you can tell if the brain is distinguishing between different speech sounds and so you can obtain information about how to adjust the hearing aid or cochlear implant parameters, or about what aspects hearing therapy should be focused on."

There are several additional benefits of this method of testing. Firstly it can be performed on babies as they sleep. In addition the equipment can potentially be set up in non-hospital settings, and in regional and rural settings, removing barriers of distance.

The team is currently testing the technique with children two months old and up, with cochlear implants, hearing aids or normal hearing.

World leading research into AMD treatment

More than one in seven Australians over 50 is affected by age-related macular degeneration (AMD), a disease associated with ageing that affects the central vision. At the moment there are no treatments available for the early stages, but thanks to world leading research, this could be set to change.

Leading the research is Professor Robyn Guymer, senior retinal specialist at the Eye and Ear and Head of Macular Research Unit and Deputy Director at the Centre for Eye Research Australia (CERA).

Prof. Guymer says "AMD is one of the most common causes of severe vision loss in Australia, and this is a world first trial of treatment that could actually slow the progression".

AMD is a degenerative disease that affects the central area of the retina called the macula, which provides the fine vision for daily tasks such as reading, recognising faces and driving.

Currently, treatment is only available for the wet form of late AMD when vision is threatened.

Since 2012, Robyn and her team have been running the first randomised clinical trial using a novel nanosecond laser to slow down AMD progression.

The Laser Intervention in Early Stages of Age-Related Macular Degeneration (LEAD) study investigates if this laser treatment can slow the progression of AMD before vision is lost.

In applying the laser to one eye, in people who have yellow deposits, called 'drusen', in both eyes the researchers aim to slow the processes that lead to late AMD. The world first trial is sponsored by CERA and is run across six sites, five in Australia and one in Northern Ireland.

The nanosecond laser used in the study is manufactured by Ellex, an Australian manufacturer of laser systems and was specially developed to treat retinal diseases. In addition to Ellex, the study was supported by the NHMRC, BUPA and Ellex.

Initial findings of a pilot study based on a 12-month follow up showed signs of reduced progression of the disease. Final study results of the LEAD study are due in 2018 and if they show similar positive results, the potential impact for those with AMD is significant.

Treatment could begin earlier, potentially preserving sight. This would represent a huge leap forward for AMD treatment.

Bob Baxter has been part of the LEAD trial and has been involved in Professor Guymer's research program for the last six years.

A routine eye check revealed he had an early stage of AMD, and he joined the study. Since then he has come to CERA on a six monthly basis.

Mr Baxter says he is happy to give his time to research for such a good cause.

"If it is going to help others, why not help?"

Earlier this year Professor Guymer was made a Member of the Order of Australia (AM) in recognition of her significant service to medicine in the field of ophthalmology, particularly agerelated macular degeneration as a clinician, academic and researcher.

Our scientific papers

As you can see every year over a hundred of papers are published by Eye and Ear researchers. The list below is a selection of the 171 papers Eye and Ear researchers published last year with high Journal Impact Factors, which measures the reputation and frequency of citation in a year. To access the full list of the articles published since 2014, please visit the Ronald Lowe Library available on our website under Health Professionals.

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Wang, W., Yan, W., Muller, A., Keel, S., & He, M. (2017). Association of Socioeconomics With Prevalence of Visual Impairment and Blindness. *JAMA Ophthalmol*, 135(12), 1295-1302. doi:10.1001/jamaophthalmol.2017.3449

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Gajadeera, E. A., Galvin, K. L., Dowell, R. C., & Busby, P. A. (2017). The Change in Electrical Stimulation Levels During 24 Months Postimplantation for a Large Cohort of Adults Using the Nucleus(R) Cochlear Implant. *Ear Hear*, 38(3), 357-367. doi:10.1097/aud.0000000000000405

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This select list of papers is kindly provided by the Ronald Lowe Library Manager, Imeri Waibuca

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