



2018

Ear Science Institute Australia
Annual Report

EAR SCIENCE INSTITUTE AUSTRALIA



A not-for-profit organisation, providing ear and hearing health care, education and research.

Based in Western Australia, Ear Science reinvests funds into medical science research, providing each of its patients with the knowledge that they are part of the global pursuit for a cure for hearing loss.

THE EAR SCIENCE TEAM

BOARD OF TRUSTEES:

George Jones AM
John Schaffer AM
Professor Marcus Atlas

BOARD OF DIRECTORS:

John Schaffer AM (Chairman)
Professor Marcus Atlas (Founding Director)
Peter Aberly
Professor Lyn Beazley AO
Sandra Bellekom
Jamie Cullen
Peter Millington
Professor Michael Quinlan

EXECUTIVE MANAGEMENT TEAM:

Sandra Bellekom (CEO)
Andrew Sturcke (CFO)
Melanie Boot (Head of Marketing & Growth)
Lize Coetzee (Head of Clinical Services)
Associate Professor Rodney Dilley (Head of Basic Research)
Adjunct Professor Rob Eikelboom (Head of Research Management)

PATRONS:

Professor Barry Marshall AC
The Honourable Malcolm McCusker AC CVO QC

CLINIC LOCATIONS

LIONS HEARING CLINICS: BUNBURY | GWELUP | HILLARYS | JOONDALUP | MANDURAH | MIDLAND | MOSMAN PARK | MOUNT LAWLEY | NEDLANDS | SUBIACO | WINTHROP

EAR SCIENCE CLINICS: BUNBURY | SUBIACO

A MESSAGE FROM SANDRA BELLEKOM



Each year I am proud to report on our achievements at Ear Science Institute Australia and this year is no exception. With the patient at the heart of everything we do, we continue to make a significant contribution to improving the lives of those with hearing impairment ultimately assisting them to achieve their best hearing.

This year we served over 28,000 people seeking guidance, assistance and treatment for hearing loss through our clinical services at Lions Hearing Clinics and Ear Science Clinic for implantable technology. The team were able to make improvements to the private patient journey for implants and reduce the wait-time for these patients from an average of 180 days to just 64 days, making a dramatic impact on the lives of those waiting for surgery.

We helped people outside of the Perth metropolitan area through our regular trips to the Pilbara, whereby our audiologists, an ENT and a health promotions officer work closely with the local communities to provide healthcare on-site while we are there and also the knowledge and skills for when we are not. I joined the team on their last trip to Jigalong in my capacity as an audiologist and the bond between the local community, healthcare workers and our team was truly inspiring and a testament to the hard work of everyone involved and our commitment to ongoing care in rural areas.

On a global level our researchers were invited to present at prestigious conferences and events on our discoveries and advancements into ear and hearing health. With 44 presentations in total and 65 publications throughout the year, our research is being heard and implemented into real life practice here in our own clinics but also around the world, helping much larger numbers of people than we could ever see on a one-on-one basis.

We continued to further our research into the association between hearing loss and dementia, with a very generous and special contribution from the late Mr Stan Perron's foundation of \$500,000. We also received another funding donation for hearing cognition research, a competitive grant of \$240,000 towards the regeneration of hair cells as a

Sandra Bellekom

B.Psych.,Dip.Aud.,
M.Aud.S.A. (CCP)
CHIEF EXECUTIVE
OFFICER



potential treatment for hearing loss from The Garnett Passe and Rodney Williams Memorial Foundation and, together with Telethon Kids Institute, we secured a \$100,000 grant from the BHP Blue Sky Award.

The local Perth community once again was our biggest research supporter with \$1.6million raised at our annual Gift of Hearing Appeal charity dinner in June at Crown Towers. With next year's dinner well into production we are looking forward to it being another successful year for not only our fundraising initiatives, but also for our entire institute.

2019 will see us move into human clinical trials with our ClearDrum® product, welcome another university to our raft of medical students securing training, and conduct even more surgical training courses for ENTs. We will also continue to further refine our clinical processes and integration of the latest research to help more people locally, nationally and internationally.



A/PROF RODNEY DILLEY AND DR ELAINE WONG ARE WORKING TO FIND A CURE FOR USHER SYNDROME

FINDING A CURE FOR USHER SYNDROME

IN HIS MEMORY:

With the sad passing of Stan Perron AM, the well-known WA philanthropist with a passion for research, Ear Science recognises the support his foundation has generously provided. Most recently, towards our research into a cure for Usher Syndrome, the main genetic cause for deaf-blindness in our community.

Being diagnosed with Usher Syndrome is a devastating prospect for individuals and their families, as the world they perceive slowly shrinks smaller and smaller before disappearing, sometimes entirely, resulting in both deafness and blindness. Currently, there is no cure for the genetic condition.

In 2018, Ear Science CEO Sandra Bellekom and Dr Elaine Wong, an experienced scientist from our Basic Research team met with Elizabeth Perron at the request of Stan and Jean Perron, to discuss Dr Wong's research on the chronic condition.

Through her vital research, Dr Wong is working with stem cells to replace damaged cochlear hair cells in the inner ear, with the goal of regenerating these cells to restore hearing.

Dr Wong works closely with Professor Fred Chen at Lion's Eye Institute, given that the condition affects both hearing and eyesight.

The Perron Family were so inspired by Dr Wong's work, they agreed to supplement the costs of research staff for Dr Wong's team to the tune of \$500,000 up to 5 years, to progress a favourable outcome faster.

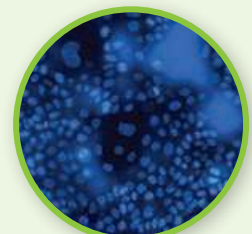
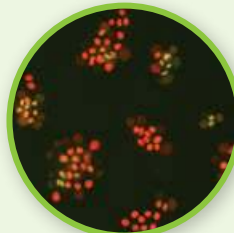
The project team has been named 'The Stan and Jean Perron Cure Hearing Loss Team'.

Success in this field could potentially be repurposed to help the millions of other patients around the world with cochlear hearing loss - not just patients with Usher Syndrome.

FROM THE LABORATORY

In 2018, our Basic Research team published 12 exciting new research articles; including new findings on stem cells in the eardrum, potential for stem cell derived therapies to improve wound healing, a modification to surface of materials for drug delivery and a range of 3D printing bio-inks to deliver cells for tissue engineering. These findings will translate to new treatments for patients. Our major projects include ClearDrum®, the silk eardrum that will help millions of people who suffer from Chronic Middle Ear Disease each year; finding a cure for Usher's

Syndrome, a devastating condition that can cause both deafness and blindness; and regenerating or transplanting damaged cochlear hair cells, which are key to hearing. Our Basic Research team is led by A/Prof Rodney Dilley, who works with internationally renowned researchers on our ultimate mission to cure hearing loss.



BIG STEPS IN TINY EAR IMPLANTS

Every year, millions of people suffer from burst eardrums and tens of thousands of people die from Chronic Middle Ear Disease*.

In a world-first trial, Australian researchers from Ear Science and Deakin University will be closer to helping these people by combining science and silkworms to create a tiny silk implant known as ClearDrum®, which is similar in appearance and size to a contact lens.

Made out of biocompatible silk, the ClearDrum® implant is placed within the ear so that the patient's own cells grow on it and regenerate their own eardrum.

Surgical lab trials are underway for the next phase of ClearDrum®, optimising the shape of our 3D printed device to closely fit the eardrum. Each of us can have subtly different shaped eardrums, and disease processes in patients' ears can cause changes too, so finding the best shape is important. This year we established new methods for finding the shape of an eardrum.

In other scientific research, our team also discovered new materials for 3D bioprinting, and identified stem cells in the eardrum, which we will now use for middle ear repair.

ClearDrum® is an all-new ear implant set to revolutionise the way eardrums are repaired.

WELCOMING INTERNATIONAL COLLABORATORS

The Basic Research team welcomed a number of visiting scientists in 2018.

Dr Pratheesh Damodaran joined the team on a six month Endeavour Fellowship awarded by the Australian Government for outstanding researchers. Dr Damodaran's research focused on a kind of stem cell that we have been working with in the lab to improve wound healing.

Head of Basic Research at Ear Science, A/Professor Rodney Dilley, explains: "In a clinical setting, we could apply this knowledge to heal the skin of the eardrum or the ear canal. These patients may have been dealing with chronic pain, hearing loss and repeated infections for some time - so if we can speed up the healing process using stem cells that would be incredible for them."

Professors from universities in Melbourne and Shenzhen also visited the team in November.

A/Prof Bryony Nayagam is from University of



The ClearDrum® project has been brought closer to human clinical trials with the help of an almost-\$4 million Wellcome Trust Translational Grant received by the team in 2017. Human clinical trials are expected to commence soon.

**Source: World Health Organization, Chronic Suppurative Otitis Media: Burden of Illness and Management Options, WHO, Switzerland, 2004.*



DR PRATHEESH DAMODARAN TEAMED UP WITH PHD STUDENT HUAN TING ONG

Melbourne, where she teaches Anatomy and Physiology for Audiology and Speech Pathology students and is a world leading figure on Auditory Neuroscience research. She came to Perth to collaborate with Dr Wong on Usher Syndrome and auditory tissue regeneration using stem cells

Fangyi Chen is an Associate Professor in the Department of Biology at the Southern University of Science and Technology in Shenzhen, China. He came to Perth to meet with Dr Wong about using stem cells for testing hearing loss methods, and A/Prof Dilley to develop eardrum research collaborations.



DR JOHN HOLSGROVE IS GRATEFUL TO HIS SURGEON, EAR SCIENCE DIRECTOR PROFESSOR MARCUS ATLAS

JOHN THANKS HIS ‘LITTLE MIRACLES’

The joy at hearing his grandchildren’s chatter and returning to easy conversations with his wife has seen John Holsgrove gain so much from his cochlear implants.

By his mid-50s, John’s hearing had deteriorated to the point where he qualified for a cochlear implant. He met with Ear Science Institute Australia’s Director Professor Marcus Atlas, and John was confident the surgery would only bring benefits to him.

“When I got the cochlear implant, suddenly, I was connected again and most importantly, my wife and I could have conversations again and for me, that is priceless” John said. “Talking with my family and hearing what my grandkids were saying was a very emotional experience for me.”

“Not only have these cochlear implants helped me reconnect with my family, but I was well aware of the fact dementia becomes a much higher risk if you’re not hearing well or at all,” John said.

“There’s a history of dementia and Alzheimer’s on my side of the family so I wanted to make sure I was doing everything I could to not go down that path.”

An estimated one in four Australians will be affected by hearing loss by 2050.*

It was recently reported that hearing impairment is the largest modifiable risk factor for dementia after the age of 55 years. And in later life, depression and social isolation, which are strongly associated with hearing impairment, are also key risk factors for dementia*.

“

COCHLEAR IMPLANTS ARE A LITTLE MIRACLE TO ME BECAUSE I’M RE-ENGAGED WITH THE WORLD.

And in 2017, John had a second successful surgery for a cochlear implant in his other ear that led to an even clearer discrimination of speech. His crucial message to those battling hearing loss is to seriously consider the social and health risks of not doing anything at all. “Being able to have conversations is so fundamental to your essential relationships,” John said.



RECONNECTING WITH HIS WIFE JEAN HAS BEEN PRICELESS

TURNING RESEARCH INTO CLINICAL PRACTICE

In 2018, our Clinical Research team published 41 papers in international; peer-review journals. The research covered a wide range of topics with a focus on translating findings into clinical practice through our Lions Hearing Clinics and Ear Science Clinic, as well as clinics in Australia and overseas. Some of the key projects were using technology to improve access to services; how patients fared long-term after major hearing-related surgeries; hearing aid handling skills and knowledge; and better predicting the outcomes of hearing implants.

Key Clinical Researchers leaders are Adj/ Professor Rob Eikelboom, Dr Dona Jayakody and Ms Cathy Sucher who work with internationally renowned researchers, surgeons, biostatisticians and more to improve the quality of care for all people with hearing loss.

See Appendix B for publication listing.



ADJ/PROF ROB EIKELBOOM AT THE WORLD HEALTH ORGANIZATION IN CHINA



WELCOMING INTERNATIONAL COLLABORATORS

The Clinical Research team welcomed a number of visiting scientists in 2018.

Mr Xinxing Fu joined the Clinical Research team for the first of many visits to Perth, as he undertakes his PhD. Mr Fu will be investigating the association between hearing loss and mental wellbeing, including cognition, in a Chinese setting. There are likely to be different findings to studies conducted in Western countries related to culture and language – particularly relating to the tonal nature of the language.

Dr Inge Stegeman is an epidemiologist from the ENT Department at the University of Utrecht, The Netherlands. She has a strong background in epidemiology, hearing implants and tinnitus, as well as being a very skilled biostatistician. Dr Stegeman joined Ear Science in late October 2018 for a 3-month stint, working with our Clinical Research team on a variety of projects.



MR XINXING FU MET WITH SANDRA BELLEKOM AT THE WORLD HEALTH ORGANIZATION BEFORE HIS TRIP TO PERTH

RESEARCH TO IMPROVE CLINICS

A key part of Ear Science Research is to ensure that all research undertaken is translational – that is, ensuring that there are always tangible, real-life outcomes for patients.

At Ear Science, our clinicians are encouraged to take an interest in research and identify any gaps in clinical practice that require investigation.

In 2018, two Ear Science clinicians moved into clinical research, to work on improving the service and outcomes for our patients, and another had her PhD accepted by the University of Western Australia.



PROFESSOR MARCUS ATLAS AND THE DEDICATED ROTTNEST SWIM TEAM EMERGED VICTORIOUS

CONQUERING THE WAVES

Led by Ear Science Director, surgeon scientist Professor Marcus Atlas, the Gift of Hearing Appeal swim team took part in the annual Rottnest Channel Swim to raise much-needed funds.

Kicking off at Cottesloe Beach just before 7am, the team completed the swim in 5 hours and 50 minutes – an incredible achievement as their new record, and the first time they have broken under 6 hours.

The weather smiled down on the team as they persevered despite a shark sighting leading to many swimmers evacuating the water. “It could have been the combination of the strong easterly wind and the shark behind us that sped up our swimming,” Professor Atlas joked.

Swimming the final leg of the race together, the team crossed the finish line at Rottnest and celebrated their victory of raising more than \$12,000 for the Gift of Hearing Appeal.

GIFT OF HEARING APPEAL CHARITY DINNER

The eighth annual Gift of Hearing Appeal charity dinner, held in June 2018, proved to be the biggest and best one to date.

Presented by Master of Ceremonies Tina Altieri and with special guests Mick Doohan and Samantha Jade, it was a night amongst the

stars as Perth’s most generous philanthropists gathered to support our Gift of Hearing Appeal.

Many in the room dug deep, and more than \$1.6million was raised to continue vital ear and hearing health research and to provide assistance to those in need.



DONOR OPENS UP NICHOLAS' WORLD

Nicholas is nine years old. He is the fourth of six kids, and his mum Skye is raising all six kids on her own.

Skye started noticing that Nicholas wasn't reaching his milestones early on in his life, which got worse as he progressed through school. Nicholas' self-esteem and confidence quickly took a beating and it became a struggle to get him to school each day.

Skye remembers: "He used to come home from school and tell me he was dumb, and that he was stupid, and he didn't want to go to school. So then he'd just shut down."

Nicholas visited a Lions Hearing Clinic with Skye, and he was diagnosed with Auditory Processing Disorder. To address this new diagnosis and to help him in the classroom, his audiologist recommended a Roger Focus assistive listening device. The device has a microphone, worn around the teacher's neck, which streams audio directly into Nicholas' ears so that he can finally focus on what his teacher is communicating to him.

Skye remembers: "I was thinking 'oh god, what am I going to do? How am I going to do this?' I was quite stressed actually, trying to work out where I was going to find the funds for this."

When Skye was told that Nicholas was a Gift of Hearing Appeal recipient, she was ecstatic. She noticed changes in Nicholas soon after he received his device.

"I want him to be able to look back at school with pride and happiness. That's what I'm hoping for, and so far, it looks like we're heading in that direction."

"I've noticed he's not coming home as exhausted, he's not having to spend so much of his energy trying to focus, and concentrate, and process, which is brilliant. He did NAPLAN last year and it was horrific. He didn't even place on the graph. Now, he'll be able to show what he's actually capable of."



A BIG DONATION FOR APD

The Lions Hearing Foundation donated nearly \$60,000 in 2018 to fund Auditory Processing Disorder (APD) devices for children.

Through our close relationship with Lions Hearing Foundation, our team were able to explain the plight of children both locally and in remote communities. Children with APD can't process and understand the information they hear in the same way as others when there is too many competing sounds. Remote microphone technology cleans the signal the child with APD listens to by reducing the background noise and enhancing the meaningful signal like the teachers voice, therefore giving the child with APD a cleaner signal to listen to. This makes listening and learning a lot easier.

CHRISTINA SMELT, CHAIR OF LIONS HEARING FOUNDATION, WITH HEAD OF CLINICAL SERVICES LIZE COETZEE



"To know that there was somebody else out there was so willing to give this gift to my child... It's really beyond words. I'm his mother and it's my job to provide for him, but you've given him something I wasn't sure I could help him with. So thank you."

SUPPORTING WORLD HEALTH ORGANIZATION

Ear Science Institute Australia is an active supporter and contributor to the World Health Organization's (WHO) plight to improve global hearing health and awareness.

We are active in meetings, including participating in multi-centre workshops and stakeholder meetings, and research within the WHO West Pacific region, encompassing 34 areas and 27 countries with a goal to improve the region's ear and hearing health.

Beyond our commitment and collaboration to the Asian Pacific Working Group, we support the WHO annual World Hearing Day event which occurs on the 3rd of March.

In 2018 the theme for World Hearing Day was "Hear the Future", drawing attention to hearing loss through the use of key statistics and facts on the rising level of hearing loss and the impending need to protect the world's hearing. Through our highly engaged social media following we were able to spread the message online to nearly 20,000 people globally and encourage them to access our free online hearing screenings.



Our Lions Hearing Clinic team provided free hearing screenings in each clinic, presented in the local community on the topics of the day, and provided workplace hearing screenings. The team also promoted our Lions Hearing Aid Bank and encouraged people to donate their old devices to help people in low and middle income countries.

HOW LOUD IS TOO LOUD?

Dangerous Decibels is a two-day workshop run by international hearing experts from New Zealand, the US and Malaysia.

Thanks to a grant from Lotterywest, Ear Science hosted experts at our clinical headquarters in Subiaco for a workshop with a group of local teachers, audiologists and community leaders.

Attendees learnt to present a fun and award-winning 50-minute interactive hearing education class for school classrooms, workplaces and more.

The class uses sound meters, hearing protection, tuning forks and other scientific tools to facilitate students' exploration of sound, how it travels and how they can protect their hearing.

After completing the course, attendees became Dangerous Decibels certified instructors, capable of delivering the interactive class for their own classrooms and communities.



PERTH'S NEWEST DANGEROUS DECIBELS EDUCATORS



HEALTHY EARS FOR ALL

Did you know up to 9 in 10 Aboriginal children in remote areas have Otitis Media*, a serious middle ear infection that can cause hearing loss?

Since 2014, Ear Science has run a remote outreach program to help bring down rates of painful middle ear infections. With a team of audiologists, an ENT (Ear Nose and Throat) specialist and health promotion staff, we could detect and treat the ear conditions early – before they become permanent.

Sandra Bellekom, Ear Science CEO, says now, five years later, visits are still about more than detection.

“An important part of what we do is sharing knowledge. After the team treats patients at the clinics in Jigalong, Punmu and Parnngurr, each of our staff spend time with the community and local health workers, talking about ear care and how to prevent ear infections. They’re very dedicated to the Healthy Ears project and always receive a familiar welcome.”



Research shows that improved hearing brings stronger speech development, listening and social connections in children.*

When all of these things add up, it can make a big difference to the child’s experience at school. Sandra joined the team on their last trip as an audiologist, performing hearing tests, referring patients and working alongside the clinical team. “These trips are critical to community health, building confidence and delivering on our mission to help people with ear and hearing disorders in any way we can.”

*Sources: Rural Health West, WA Primary Health Alliance, WA Country Health Service. (2017). WA Child Ear Health Strategy 2017-2021. Perth, WA: WA Country Health Service. Australian Institute of Health and Welfare 2018. Australia’s health 2018. Australia’s health series no. 16. AUS 221. Canberra: AIHW.

THE HEALTHY EARS TEAM VISITING THE REMOTE COMMUNITY OF JIGALONG





AUDIOLOGIST PRASANNA AT THE MANDURAH SENIORS EXPO

PROMOTING COMMUNITY AWARENESS

The Lions Hearing Clinic team is highly engaged with the community, sharing its expertise, not only in the clinic rooms but mixing with patients in their world.

This bond between patients, prospective patients and clinician is an important part of sharing our knowledge and raising awareness in the public arena around ear and hearing health, with a particular focus on hearing loss.

The team was active at a number of expos throughout the year, including the Care and Ageing Expo, Bunbury Seniors Expo and Mandurah Seniors Expo.

At these events, our audiologists and audiometrists engaged with visitors to showcase the importance of looking after their hearing and when to seek assistance from a professional.

With hearing loss impacting over at least 25% of people aged 65 to 74, and over 50% of those over 75 years of age*, providing education to this at-risk group helps to ensure they are able to identify warning signs and know when to seek treatment.

The education sessions at events such as the Leading Age Services Australia roadshow and others with local community groups, Lions Clubs Australia and medical clinics, focussed on the latest research and the link between hearing loss and depression, anxiety and even dementia.

Many of these associations are not known by the public and through education we are able to help individuals that attend, but also provide guidance to those that are family members of people impacted by hearing loss.

Through this engagement between clinician and the community we are striving to improve the number of people who are aware of the importance of healthy hearing on their own lives and the need to ensure treatment is sought as soon as possible.

**Source: Stevens et al. Global and regional hearing impairment prevalence: an analysis of 42 studies in 29 countries. European Journal of Public Health, 23: 146-152.*

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My father has asked me to convey his immense gratitude to Lions Hearing Clinic for the professional and caring service he has received.

The hearing aids he has received are making all the difference to his enjoyment of life! His audiologist's attention to detail, patience, professional and personable manner are a credit to both her character and all who have contributed to her formation as an audiologist.

- Anthony*

**Source: Name on file*

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SOMETHING FOR EVERYONE

At Lions Hearing Clinics, it's known that one hearing device does not 'fit all'.

The team work hard to provide the most extensive product range available, to ensure that we can provide a hearing solution for every client.

Our clinicians listen to their clients' individual needs, wants, goals and lifestyle, and make recommendations based on this information. *By providing an expansive suite of options, our clinicians can ensure their clients walk out with the right device to suit them, every time.*

The product portfolio is updated every few months to include the latest technology from a large range of manufacturers. On top of this, six brand new hearing devices and technologies were included to expand our range even further in 2018.

We have trained a second clinic location to deliver the Lyric product and been named the number one provider for delivery of Lyric in Western Australia. Lyric is a tiny hearing aid that sits deep within the ear canal and completely out of sight.

Once it has been fitted by an experienced audiologist, it is worn around the clock for months at a time and is extremely popular with business people and high profile individuals in Perth.

6

brand new hearing devices

#1

clinic for invisible, in-the-ear Lyric devices in WA



HEARING AID BANK

In collaboration with the Lions Hearing Foundation, our Lions Hearing Clinics donate thousands of pre-owned hearing aids to areas in need through a joint initiative called the Lions Hearing Aid Bank.

Lions Hearing Clinic clients can donate or trade in their old hearing aids, which are then refurbished and donated to people in need across the world.

The hearing aids are donated primarily to children via healthcare professionals within schools, orphanages and community centres, particularly in developing countries such as the Philippines, Indonesia and Kenya.

These hearing aids give the children new-found hearing so they can be one step closer to gaining a vital education and a brighter future.

Over 300 hearing aids were donated locally and internationally in 2018.



GHENDIS (ABOVE) AND REZA (BELOW) WITH THEIR DONATED HEARING AIDS





STILL CHEERING FOR EAR SCIENCE

More than ten years after receiving life changing surgery, WA's first simultaneous bilateral cochlear implant recipient is still cheering for Ear Science.

A photo of him and his daughter, is now displayed in an almost 10m tall building wrap on our Subiaco office. The wrap will help raise awareness for Ear Science – and for the ‘magic’ that happens in our building!

When he was 8 years old, Danny Clarke lost partial hearing in his right ear from a fall. His hearing loss continued into adulthood, then at 24 years of age, he suddenly lost all of his hearing in his right ear overnight. Unfortunately, Danny then lost the rest of his hearing in his left ear after being attacked by a total stranger in Fremantle after a night out. Four months of appointments later, Danny came face-to-face with Professor Marcus Atlas, who offered a solution to treat Danny’s hearing loss.

“I only had four months of silence, but during that period, I was scared, lonely and frustrated at not being able to hear,” Danny said.

Professor Atlas said a bilateral cochlear implantation surgery could be done to restore most of Danny’s hearing, but it would be delicate – and, in a WA first, both implants would need to be fitted at the same time.

“I am lucky to live at a time where this amazing technology exists and that allows you to reconnect to the world of sound.”

The operation was a resounding success, and Danny was able to return to work. Because of his cochlear implants, Danny could continue working in a helicopter, rescuing people from road accidents, off stricken ships, or searching for missing persons as an air crewman for the Emergency Medical Service/Search and Rescue.

Changing his life meant Danny could continue to change and save other people’s lives.

Danny and his story is so ingrained with our team at Ear Science that when we wanted to promote our cochlear implant program on the side of our Subiaco clinical headquarters, it was his face that was deemed the most iconic.



CLIENT SUPPORT A KEY FOCUS

Ear Science Clinic runs a number of client support groups throughout the year.

Each event is run by an Ear Science Audiologist and an implant recipient and advocate, giving attendees a chance to understand the process of cochlear implantation from someone who has been through it. For those with an implant, it's an opportunity to meet and share with others who have similar experiences.

Often there'll also be special guest presenters - in 2018, attendees heard from David Melling, who plays for the WA Deaf Cricket Team, Australian cricketer Cameron Bancroft, who spoke about his journey of rebuilding his confidence after a terrible mistake, and Bob Halford from Lions Hearing Dogs, who spoke about the training program and the benefits a hearing dog can bring.

The events are run every few months, and are very well attended as the level of support provided is so valuable to those who need it.



SOMETHING FOR EVERYONE

To continue to provide the full suite of options for clients across not only our Lions Hearing Clinics but also our Ear Science Clinic, the team now work with all the major cochlear implant suppliers: Cochlear, MED-EL, Oticon Medical and Advanced Bionics.

By ensuring the clinics have the greatest range available, Ear Science can provide recommendations to suit each client's individual audiological, medical and lifestyle requirements to achieve the best outcomes possible.



BOB HALFORD PRESENTING ON LIONS HEARING DOGS WITH EAR SCIENCE STAFF

FURTHERING GLOBAL EXPERT CARE

As part of our ethos to improve the lives of people with ear and hearing disorders around the world, we consider education to be the critical action required to make a difference.

This education ranges from the general public to medical students to GPs and even further to ear, nose and throat specialists, as was the case with our March surgical training event hosted at our Subiaco surgical laboratory.

Convened by Dr Latif Kahdim, the endoscopic ear surgery course showcased best practice endoscopic surgical methods and trained local and international ENT specialists to provide further education and experience in perfecting these techniques.

The course, supported by The Australian Society of Otolaryngology Head and Neck Surgery (ASOHNS) and key industry partners, was held over a two day period with the specialists alternating between lectures and practical surgical technique sessions with cadavers.

The course included highly regarded specialists in the field presenting on their topic of expertise such as Dr Rudolf Boeddinghaus, Prof Daniele Marchioni, Prof Muzza Tarabichi, plus many other specialists who formed the facility including Ear Science's Director Prof Marcus Atlas and our Education Medical Advisor Dr Jafri Kuthubutheen.

The participants in the course were shown a variety of procedures and techniques and given the time and tools to perfect them in a supportive environment. The procedures included myringoplasty, canaloplasty, atticotomy for cholesteatoma treatment, removal of ossicles, retrotymppanum and hypotympanum. The participants were also shown the latest products and able to experience equipment including a CO₂ laser.

INTERNATIONAL SPECIALISTS LEARN FROM EAR SCIENCE EXPERTS



OFFERING ALL MEDICAL OPTIONS

Our clinical services team strives to provide a comprehensive range of devices for patients, to ensure they are able to recommend the device that best suits the patient's medical needs. This applies to both hearing aids and cochlear implants.

A key part of being able to provide this range is the ability to provide education to surgeons as the latest implantable devices become available. In 2018, training was provided on new devices from Cochlear and MED-EL, plus on new-to-Australia devices from Oticon Medical and Advanced Bionics.

This training provided surgeons with the opportunity to learn from the suppliers about the new devices, their benefits and improvements on previous models, and to practice the differing implantation techniques, particularly the electrode insertion techniques that are best practice for each device.

By learning about these devices and perfecting their surgical techniques, the surgeons were equipped with the knowledge and skill to assess the best device for their patient's hearing preservation and outcomes. This benefits our patients and ensures we are always recommending devices from the widest range available and matching the device to our patient's medical needs.

TRAINING WA'S MEDICAL STUDENTS

In 2018 alone, Ear Science trained almost 500 future doctors from UWA and Notre Dame.

Working with every WA medical student will ensure the next generation of doctors are benefiting from our specialised research and knowledge - and so are the patients they will one day help.

Training students is vital to Ear Science's mission to help people with ear and hearing disorders through education, research, prevention and treatment.

Students enjoy hand-on interactive training, complete with simulation models, and first-hand knowledge from surgeons, specialists and a range of clinicians.



In some sessions, students also hear from a person with profound hearing loss about their experience with doctors, hospitals and appointments, helping to provide them with an understanding of how their own communication skills can impact a patient with hearing loss.

Past feedback shows just how much of an eye opening lesson this can be.

“We’re in a unique position where we can bring together a variety of specialists to educate our next generation of doctors in the importance of proper ear, nose and throat diagnosis and care. This is a brilliant opportunity to improve ENT care for patients in years to come.”

- Sandra Bellekom, Ear Science CEO



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**USEFUL FOR
PATHOLOGICAL
AND CLINICAL
UNDERSTANDING.
AN EXCELLENT
EXPERIENCE!**

DIRECTOR TRAINS THE NEXT GEN

Professor Atlas welcomed a new Ear and Skull Base Surgical Fellow in mid-2018, Dr Shannon Withers as Dr John Renton returned to the United States of America at the end of his year of fellowship.

Dr Withers has a special interest in Otology and Neuro-Otology, and given Professor Atlas' reputation in the field, decided to move to Perth to complete a 12-month Fellowship and learn techniques and procedures from Professor Atlas.

Prior to her fellowship, Dr Withers has worked as a consultant ENT surgeon sharing her time each month between hospitals in Victoria, New South Wales and Queensland.

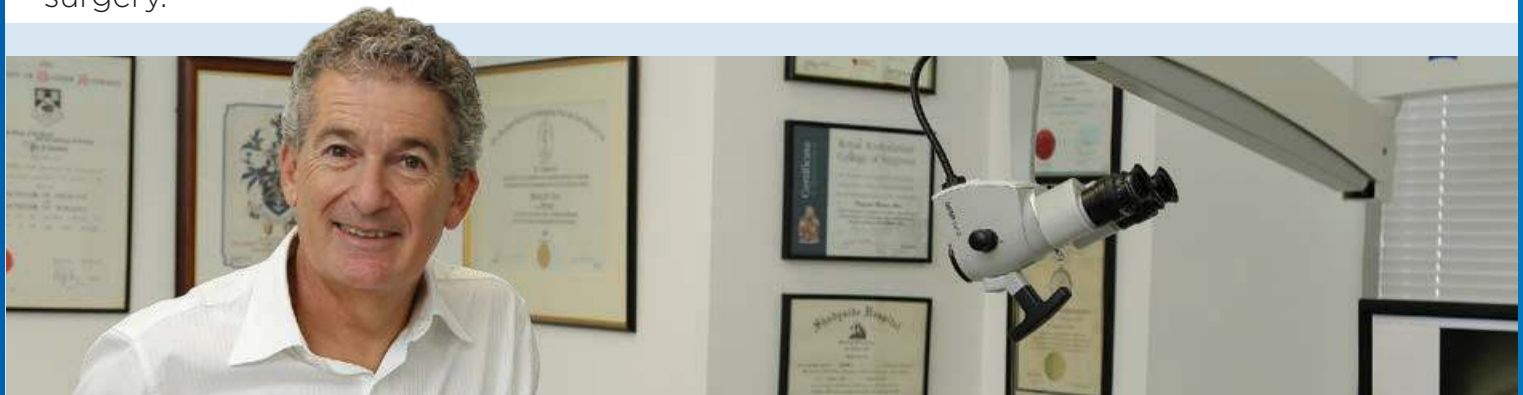
Dr Withers explains: "I'm most looking forward to learning from Professor Atlas both clinically and operatively, as well as undertaking research, specifically in the area of cochlear implantation."

Dr Withers is Professor Atlas' 23rd consecutive fellow that he has helped refine their techniques and skills both in and out of surgery.

He sees it as an integral part of an experienced surgeon's role and enjoys passing on his knowledge to the next generation of up and coming surgeons to create better outcomes for patients for many decades to come.



DR SHANNON WITHERS, EAR AND SKULL BASE SURGICAL FELLOW



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EAR SCIENCE INSTITUTE AUSTRALIA INCORPORATED

Financial report for the year ended 30th June 2018



	2018 \$	2017 \$
Income & Expenditure Statement		
Revenue & Other Income		
Gross Surplus from Clinical Services	6,052,421	5,560,665
Gift of Hearing Fundraising, Donations & Sponsorships	925,626	926,286
Rental Income	1,083,352	1,102,158
Research & Other Grants	609,781	300,676
Interest, Dividends & Other Income	173,667	191,255
Profit on Disposal of Assets		996,641
Total Revenue & Other Income	8,844,848	9,077,682
Expenses		
Research Expenses	2,302,428	2,009,194
Administration Salary & Wages	3,008,839	2,747,424
Rent & Variable Outgoings	1,328,810	1,213,213
Depreciation & Amortisation	873,462	814,156
Office & General Expenses	606,707	638,189
Interest & Finance Costs	166,972	181,992
Total Expenses	8,287,271	7,604,167
Net Surplus for the Year	557,576	1,473,514
	2018	2017
	\$	\$
Net Assets	14,673,409	14,115,834

VISION

A centre of excellence, enhancing the lives of people with ear and hearing disorders.

MISSION

We are dedicated to helping people with ear and hearing disorders, through research, education, prevention and treatment.



RESEARCH HEADQUARTERS:

QEI Medical Centre
Ralph & Patricia Sarich Neuroscience
Research Institute
8 Verdun Street
Nedlands WA 6009

Ear Science Institute Australia is a registered charity
ABN: 48 804 903 003

CLINICAL HEADQUARTERS:

Ear Science Institute Australia
1/1 Salvado Road
Subiaco WA 6008

T +61 8 6380 4900

www.earscience.org.au

FRONT COVER: DR FILIPPO VALENTE TESTING A NEW SILK MATERIAL
BACK COVER: ASSOCIATE PROFESSOR RODNEY DILLEY (LEFT) AND
PROFESSOR MARCUS ATLAS (RIGHT) IN THE LABORATORY

APPENDIX A: 2018 MOLECULAR & CELLULAR OTOLARYNGOLOGY RESEARCH PUBLICATIONS



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APPENDIX B: 2018 CLINICAL RESEARCH PUBLICATIONS



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APPENDIX B: 2018 CLINICAL RESEARCH PUBLICATIONS CONTINUED



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APPENDIX B: 2018 CLINICAL RESEARCH PUBLICATIONS CONTINUED



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