



LIONS  
**EAR AND HEARING**  
INSTITUTE



Annual Report 2005



The Lions Ear and Hearing Institute is an independent, not-for-profit organisation dedicated to the research and treatment of ear and hearing disorders. Situated in Perth, the Institute is affiliated with the University of Western Australia and teaching hospitals in Western Australia.

Established in 2001, the vision and focus provided by the specialised team at the Lions Ear and Hearing Institute is resulting in groundbreaking medical advancements in surgical techniques and the diagnosis and management of ear and hearing disorders.

The work of this team means that hearing impaired people around the world are achieving physical and emotional independence as they benefit from the foresight, talent and expertise of the Institute's dedicated surgeons, researchers, clinicians and students.

The Lions Ear and Hearing Institute relies on research grants, community donations and bequests for its ongoing research.

“To accomplish great things, we must not only act, but also dream; not only plan, but also believe.”

Anatole France. Nobel Literature Prize Laureate 1921



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## Director's Report

Hearing loss has been termed an international “epidemic” by the World Health Organisation, with an estimated more than 560 million sufferers in 2005. This number is projected to rise to more than 700 million in 2015, and more than 900 million by the year 2025. Consider the effects of this not only on those who suffer the hearing loss, but on their families, friends and the wider community, including business.

The Lions Ear and Hearing Institute is dedicated to addressing this problem in its world-leading medical, scientific and technological research. The Institute strives to produce research that is applicable to common ear and hearing disorders, and has made a number of key advances which are already providing benefits to patients.

Structures of real substance require a strong foundation. In 2001, the Lions Ear and Hearing Institute Executive Board worked tirelessly to create the cornerstone on which the Institute would be built. This consisted of vital components of scientific and medical expertise supported by a strong management team and an experienced Board and advisory structure. This has allowed us to plan and create an Institute that will be sustainable and that is designed to take advantage of rapid technological advancements.

Recently, we have successfully collaborated with the University of Western Australia to create an Ear Sciences Centre, built on the foundation of our successful research and academic record. This Centre is part of the Faculty of Medicine and Dentistry and the School of Surgery and Pathology. This will allow LEHI and UWA to work more closely together, using the resources of the Institute. The Centre will bring our clinicians and audiologists into the academic environment of the University, encouraging even better opportunities for skill development and creative thinking for new research concepts in ear and hearing disorders.

This year, the management team has undergone further restructure with new positions and responsibilities. External advice and expertise from the LEHI Board in special areas of science and commercialisation is used to augment the skill of the management team.

### ... moving from science fiction to science fact ...

The telehealth project has moved from basic science to practical application in the community in less than three years. The exciting science of tissue engineering of the ear follows a similar path as telemedicine, moving from science fiction to science fact, as an eager team of scientists work closely with surgeons and audiologists.

The structure of greater significance for the LEHI in the years ahead will be the building of a new research facility. The purpose of a dedicated centre is to bring together a range of specialist researchers in one location. This will allow the interaction of expertise and the further facilitation of groundbreaking research and innovation in the field of ear and hearing disorders.

A unique feature of the Institute's dedicated facility will be the continued practical application of discoveries through the Lions Hearing Clinics' network. This clinical research and practical application model is the basis of a dynamic, world class Institute. Many successes have already been achieved, and the new building facility will further the focus of research. As a wider community resource, the new Institute will bring far-reaching benefits as an internationally recognised centre of excellence.

The development of a building to house the Institute is currently in progress. Approval has been received from the City of Subiaco for this to be positioned in Salvado Road adjacent to the St Joseph's Church and close to the St John of God Hospital. Negotiations will now commence to raise the necessary capital for the building, and to enter into a long term lease arrangement with the Catholic Archdiocese of Perth.

The creation of a multi-purpose medical and patient service hub is indeed an exciting prospect. The research building itself will allow our scientists, clinicians and audiologists to work under one roof, creating the synergy required for applied research and sophisticated hearing treatments.

The Lions Hearing Foundation has generously supported the Institute without hesitation, and with enthusiasm, since inception. The generous voluntary contribution of our Executive Board and Council of Governors is always appreciated. This year, Sue Bergersen stepped down as Chair of the Executive Board. Sue's contribution has been integral to the establishment of LEHI and I thank her both personally and on behalf of the Institute for her commitment and invaluable support.

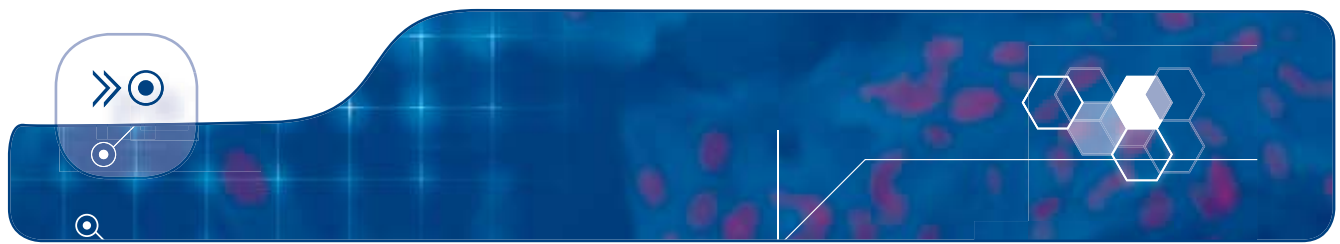
I would like to take this opportunity to welcome new Chair Professor Val Alder, whose background of scientific research and development will be invaluable to LEHI's areas of research.

We look forward to another exciting and productive year in the Institute's development.

Professor Marcus Atlas  
Director







## Chairman's Report

The past year has seen unprecedented recognition of the wonderful 'world class' medical expertise developed over many years in Western Australian scientific Institutions. With a strong vision and skillful leadership, the Lions Ear and Hearing Institute has now developed into an important high performance contributor in this important arena. We can be truly proud that the LEHI has grown as an outstanding success nationally and internationally in just five years.

Results as inspiring and outstanding as the LEHI's do not come without significant planning, structures and systems, but other intrinsic factors must also be present. The LEHI has fostered a cohesiveness within its organisation, at all levels, toward its ideals in addressing the enormous worldwide problem of ear and hearing disorders and disease. The LEHI has also produced a culture based on an unrelenting pursuit of high performance standards and practical outcome deliverables, of immediate value to people and communities.

The LEHI's strategy to grow its clinical interface and services during 2005 has ensured that a much wider group of the community was able to seek hearing aid solutions, implants, surgery and advice for a range of disorders than in previous years. Service delivery now reaches from Joondalup to Murdoch through four sites and five clinical units. This growth over 2004 resulted in clinical turnover in excess of \$2.2M and a pool of over \$360K from which new initiatives and research projects were internally funded throughout the year.

LEHI's research activities also continued in an upward trend during 2005 with reserves increasing over 25% by 30th June. A major objective during the period was the advancing of research activities and increasing scientific resource capabilities. Several new scientists were appointed, agreements were reached providing platforms for commercialisation development and collaboration was furthered in a number of areas. Most importantly collaboration was strengthened internationally in North America and Europe bringing commercialisation prospects, and significantly with the University of Western Australia, for the creation of the Ear Sciences Centre.

The LEHI's strategy to ensure that researchers and clinicians continued to work interactively during 2005 has brought tremendous forward steps. The commencement of several new research projects with clinical focus came to fruition, engaging audiologists in the realms of its research processes.

The LEHI's list of scientific publications continues to gather momentum as the depth of its research expands. Attendances and presentations at high profile scientific conferences continues to build important scientific and

audiological relationships and locally the ongoing engagement of quality PhD students remains a key element for new scientific initiatives.

As mentioned in last year's report, facilities and space are major issues for the LEHI. The progress during 2005 of a new single site facility in Subiaco is a tremendous breakthrough. To date the LEHI's achievements have not been seen by the public through a material presence, due to the spread of scientists throughout various locations at Sir Charles Gairdner Hospital. The new site is well positioned, and will no doubt bring enormous visual recognition of the LEHI and its community services to the general public.

The year cannot pass without acknowledgement of the staff of the LEHI. Associate Professor Rob Eikelboom and Deputy Director, Audiology, Kate Lewkowski once again delivered their agreed outcomes and of course support from all of their reports was critical to this result. On behalf of the Executive Board and the Council of Governors we thank everyone involved at the LEHI for their valuable efforts and flexibility in meeting the changing priorities of the year.

In stepping down from the Chair after five years, I would like to thank our Director, Professor Marcus Atlas, my fellow Chair (Council of Governors), Rob Cole and the members of the Executive Board for their support during the challenging years of establishment and in particular for their commitment to the initial strategy of developing the LEHI with clinical and audiological services.

The appointment of Professor Val Alder to the Chair is an important step in the new phase of the LEHI and in its commitment to applied research.

As the LEHI's platform in science and clinical delivery is now firmly in place, the challenge is to develop further the LEHI brand within the Western Australian community, to commence the raising of funds for the new building and to further the important research projects and commercialisation opportunities that are under way.

Sue Bergersen  
Chair, Executive Board

Rob Cole  
Chair, Council of Governors





## Rediscovering Sound - Auditory Brainstem Implant Breakthrough

**Ground-breaking surgery was carried out by Professor Marcus Atlas in February 2005 in an effort to assist a patient regain a sense of sound and hearing, and enhance his communication abilities.**

**Below is the story as it appeared in The West Australian. The follow-up report covers the actual programming and 'switch-on' of this device by a team of dedicated Audiologists at the Lions Hearing Clinics.**

### Brain implant to help WA man hear

In a WA-first, Perth doctors have performed radical surgery to help a man hear again by implanting a device into his brain.

Painstaking surgery on 59-year-old Boddington grandfather Brennan Newman at St John of God Hospital in Subiaco is expected to restore some of the hearing he has progressively lost in the past five years.

Mr Newman has a rare hereditary condition called neurofibromatosis type II, which causes life-threatening tumours to grow in his brain.

The remaining 10 per cent hearing in his left ear was lost last week when surgeons had to remove tumours entwined in hearing nerve cells.

Professor Marcus Atlas, an ear and skull base surgeon from the Lions Ear and Hearing Institute, said the surgery was the only way to offer Mr Newman the chance to hear again.

About 300 auditory brainstem implants have been used globally, including a handful in Australia.

In an eight-hour operation to remove the tumours, the auditory device was implanted into Mr Newman's brainstem, the lower part of the brain linked to the spinal cord.

Professor Atlas said it would operate in a similar way to a cochlear implant, but would stimulate the brain directly rather than the ear to help him recognise sounds.

The switch-on will be done gradually over several weeks.

"This ground-breaking technology offers relief to a group of patients that we have traditionally not been able to help," Professor Atlas said.

Story: Cathy O'Leary, Medical Editor, The West Australian.  
Wednesday 9 February 2005.



Picture: Barry Baker





## New start, new sound

The Auditory Brainstem Implant (ABI) is a device that is implanted into the brainstem. Its electrodes take sound from a microphone, and stimulate sections of the brain to create auditory sensations and sounds. An ABI cannot restore hearing as we know it, but it can provide the sensation of sound and tone, which is of immense value to a patient when communicating and lip reading, and it means the patient does not live in a completely silent world.

Because Mr Newman had a tumour on the auditory nerve removed, and the ABI in one surgical operation, the recovery and healing time he needed post surgery was five and a half weeks before any programming and 'switch on' was begun.

An ABI ... can provide the sensation of sound and tone, which is of immense value to a patient when communicating and lip reading, and it means the patient does not live in a completely silent world.

Audiologists Roberta Marino and Katrise Eager from the Lions Hearing Clinics (in collaboration with Cochlear Ltd) worked with Mr Newman on this next phase. "Firstly, we had to check which of the 21 electrodes on the brainstem were functional and had not suffered any damage during or after surgery."

Roberta explains that because the electrodes are on the brainstem, stimulating them can result not only in auditory sensations, but also non-auditory effects, such as facial stimulation, dizziness, tingling or sensations in different regions of the body.

"As it turned out, 21 electrodes were functional. We could use as many as 14 of these, as the other 8 resulted in non-auditory stimulation."

Roberta notes that "a total of 14 electrodes out of 21 is greater than the average 9 to 10 electrodes that are generally usable for ABI wearers."

The programming and switch-on demands time, and it's a sensitive procedure. Deciding on a programming strategy also took time, as it needed to be one which would work best for Mr Newman without producing non-auditory side-effects such as eye-twitching.

During the first two months of programming, Roberta Marino worked with Mr Newman every week, and he now visits one of the Lions Hearing Clinics on a monthly basis.

Because ABI is a relatively new surgical and technological development internationally, results and outcomes for patients differ. The sound may fluctuate or fade on a daily or weekly basis. Initial programming sessions are held regularly to constantly fine tune things.

"An auditory brainstem implant cannot yet be used on its own" notes Roberta. "Lip-reading and visual cues are still needed to assist the wearer. If someone is about one metre from Mr Newman, facing him directly and speaking slowly and clearly, without changing topics frequently, most of the conversation can be followed. However, background noise and environmental sounds can interfere with how well he detects the signal."

Communication with his family is definitely better for Mr Newman with the ABI device. It provides him with auditory sensations, and although he cannot hear words clearly or distinguish pitch in voices, he uses the information he receives exceptionally well. He has described the sounds he hears as "Dalek-like" (after the fictional robot-like creatures in Dr Who!)

Although what he hears has no real tone as we know it, without the implant, his world would be totally silent. The ABI means he has contact on an auditory level, and this makes a difference to his communication.

"Mr Newman has persevered through incredibly difficult situations, yet he is always positive", comments Roberta. "It's been enormously rewarding to work with him, and in spite of the frustrations and the unknowns, he has never given up. Both he and his wife retain a wonderful perspective on life."



## Research Report

### Research Annual Report

Research at the Lions Ear and Hearing Institute is focused on improving the diagnosis, care and management of patients. The Institute's research activity has increased rapidly in the past 12 months. This has been generated by the recruitment of key people, and the involvement of many of our clinical staff in research projects. The results of research are regularly communicated in peer-reviewed medical and scientific journals and at international conferences.

The first edition of a bi-annual Research Newsletter has been produced which aims to communicate our activities to the patients and the community.

Students are a vital element of the Institute's research work. Currently two PhD and two Masters of Medical Science students are enrolled through UWA. Undergraduate students from many disciplines, including computer science and medicine, are engaged in research projects, and the Institute offers a number of summer vacation scholarships each year.

Challenges in the next 12 months will include strengthening our collaborative research projects, attracting more research funding, and building our skills in commercialisation.

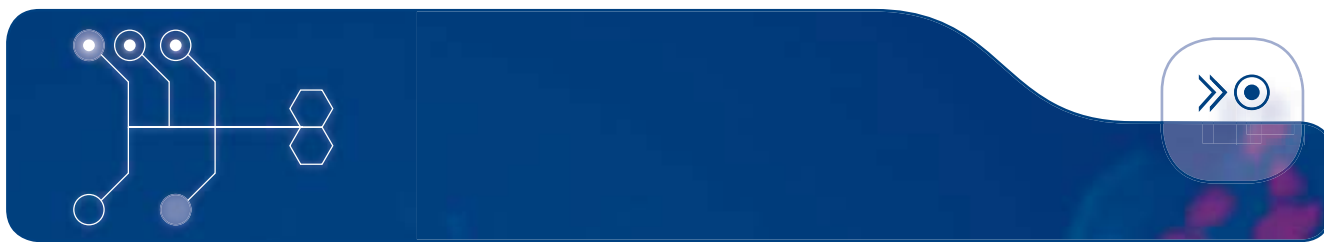
Our successes are a result of the hard work of a multi-disciplinary team of many researchers and students, supported by a strong management team and Executive Board.

### Telemedicine

The LEHI telemedicine project aims to develop systems to improve the access to health care for people in remote areas, and to enhance the tools that clinicians use in their care of patients. There have been a number of key developments in our telemedicine project.

Challenges in the next 12 months will include strengthening our collaborative research projects ...





The Institute's user-friendly suite of software for telemedicine has been deployed in a number of sites in Australia. EiR and Zernike are currently helping us to commercialise our system. We are also forming collaborations with established medical software companies to incorporate our tele-otology system into existing clinical and business models.

We have entered into a research and licensing agreement with Paradigm Diagnostics Pty Ltd to develop an expert system that assists GPs and health workers in the identification and diagnosis of ear disease. Based on published evidence, this software will guide a clinician through a decision making process and suggest the most likely diagnosis. This will be supplemented with a rich set of multimedia and clinical care guidelines.

In the near future we plan to develop new software applications for telemedicine based on open-source tools. These will provide a platform from which to develop highly integrated systems.

The Lions Ear and Hearing Institute is a founding member of e-Med, the International Centre of Excellence in e-Medicine. This \$2.25 million Western Australian Centre of Excellence involves a number of leading research institutions and universities in WA.

## Tissue Engineering

Eardrums damaged by diseases or traumatic events, such as bomb blasts, often require surgical repair. LEHI research has shown that the success of this surgery usually falls below expectations both in terms of rates of closing the perforations and in the hearing.

Dr Reza Ghassemifar, a well credentialed cellular pathologist and developmental biologist, has joined the Institute to lead the tissue engineering team. He will be concentrating on characterising the cells in the eardrum, and applying these to developing optimal methods of growing these cells on suitable tissue scaffolds.

Dr Peter Santa Maria is the new Garnett Passe and Rodney Williams Memorial Foundation's Surgeon Scientist candidate. His research will concentrate on developing an animal model to study eardrum perforations.

A generous grant from the Lions Hearing Foundation has enabled us to purchase equipment for our laboratories, situated in the UWA School of Surgery and Pathology.

## Hearing Implants

The Lions Ear and Hearing Institute has one of the largest hearing implant clinics in Australia. Excellence in surgery and rehabilitation is supported by clinical research into the various aspects of hearing implants. The LEHI has developed a set of hearing tests for implant patients and is leading a collaborative project with two other clinics in Australia to develop patient selection protocols.

We are also assessing residual hearing in cochlear implant patients, speech discrimination and sound localisation in patients with two hearing implants, and have participated in a clinical trial of new types of implants and accessories.

## Surgical Outcomes

An assessment of the results of surgery is important for surgeons and patients. These data are used to select patients suitable for surgery, in pre-surgical counseling of patients to provide realistic expectations of the surgery, and to determine the effectiveness of devices and procedures. Two important Institute projects have been the assessment of a new implant that is used in middle ear surgery, and the assessment of the quality of life of patients after middle ear surgery.

## Researchers

Dr Keith Anandacoomaraswamy  
Prof Marcus Atlas  
Dr Ruth Blackham  
Tamara Davey  
Gemma Edwards  
Dr Robert Eikelboom  
Raquel Fernandez  
Mark Gallop  
Dr Reza Ghassemifar  
Dr Mukesh Jain  
Kate Lewkowski  
Roberta Marino  
Dr Gunesh Rajan  
Sharon Redmond  
Dr Peter Santa Maria  
Dr Kavitha Subramaniam  
Dr Guy Watts

## Researchers



### Dr Robert Eikelboom

Rob leads the research team and for him it's about allowing one "the freedom to be curious, to think, to try things, to apply knowledge, to develop, enhance, invent." He aims to grow the team as well as commercialising the outcomes where possible. Rob holds a Bachelor of Engineering (Electronics), a Master's degree in Applied Science (Biomedical Engineering) and a PhD from the University of Western Australia, where he currently serves as Adjunct Associate Professor as well as Research Officer for the Otolaryngology Unit at the University's School of Surgery and Pathology. He is author and co-author of over 80 papers in peer reviewed journals, and has been a presenter at more than 80 conferences. Rob's focus is on telemedicine and medical imaging, areas which have yielded significant results for the Institute.

### Dr Ruth Blackham

Ruth Blackham began work with the Lions Ear and Hearing Institute as a 3rd year medical student conducting vacation research into the utilisation of otolaryngology services by patients in remote areas of Western Australia. This resulted in publication in the Australian Journal of Rural Health. Ruth has continued her work in a number of ENT-related projects. Currently she is working on an audit study of a new type of prosthesis used in hearing-impaired patients. "The Institute has been extremely supportive and encouraging of my work and I have thoroughly enjoyed my time here."



### Mark Gallop

Mark graduated from Curtin University of Technology with a Communications Engineering degree (Honours). Since 2001 Mark has been a key person in the development of LEHI's telemedicine software. Current projects include enhancements to the telemedicine software, and development of audiology and hearing rehabilitation software. He also plays a role in supporting various research projects, and supervising summer scholarship students. "The Institute has given me the opportunity to work in an open-minded, multi-disciplined environment with people who are passionate about the work they are doing."



### Dr Reza Ghassemifar

As the Head of the Tissue Engineering Group at the Institute, Reza has been engaged to set up the laboratory, supervise students, and conduct research projects into the development of an artificial tympanic membrane. With a background in cell and molecular pathology, Reza has been trained in Sweden, and worked in the UK. He holds a Medicine-Doctor degree in Cellular Pathology (Connective Tissue Contraction in Wound Healing) from the University of Linköping, Sweden. As a scientific consultant and researcher his work has covered biomedical sciences including cell and molecular biology, genetics, developmental biology and wound healing. He's authored peer-reviewed papers in international journals and has also discovered a primate specific tight junction protein named Occludin TM4. Reza has been a Courtesy Faculty Member at the Wound Institute, Department of Obstetrics and Gynaecology, University of Florida, USA.

### Dr Gunesh Rajan

Gunesh is a Physician and ENT Surgeon who trained in Zurich, Switzerland under the pioneer of otology and skull base surgery, Professor Ugo Fisch. He completed his doctorate in tumour immunology, and spent a Fellowship year with Professor Atlas at the Lions Ear and Hearing Institute in 2004. As an otologist and skull base surgeon he focuses on clinical outcomes research, inner ear and middle ear mechanics research as well as development and improvement of surgical techniques in otology and head and neck surgery. He is currently setting up a temporal bone laboratory and inner ear research group at the Ear Sciences Centre of the University of Western Australia.

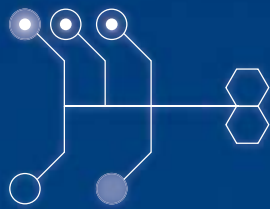
### Katrise Eager

As a Clinic Audiologist Katrise is currently working on a Masters of Medical Science research project on the Bone Anchored Hearing Aid (BAHA). She is also involved in international research projects on the BAHA and cochlear implant, and a collaborative research project on children with bilateral cochlear implants.

### Roberta Marino

As an Audiologist with the Lions Hearing Clinics, Roberta's research projects include the investigation of residual hearing and inter-operative monitoring.





### Sharon Redmond

Sharon has worked in a variety of routine histological and research laboratories within the University of Western Australia and QEII Medical Centre since 1986. Her work has covered the basic biology/morphology of the eye and optic nerve, with the view of restoring vision lost to optic nerve damage, the etiology and progression of breast cancer, the etiology of prostate and urinary tract cancers with the aim of improved staging and prognosis, and clinical trials of detection methods of the *Helicobacter pylori* bacteria. She commenced work at LEHI in April 2005 in the Tissue Engineering Laboratory researching tympanic membranes and wound healing using tissue culture, histological, immunohistochemistry and molecular biology techniques.

### Dr Kavitha Subramaniam

Kavitha currently works as a doctor at Royal Perth Hospital, Western Australia, and has been involved with LEHI since its establishment in 2001. Kavitha's main interests are acoustic neuroma surgery and stapedectomy, particularly related to patient quality of life before and after surgery. This work has been published, and she has also presented her findings at a number of medical conferences.



### Dr Leigh Goggin

Leigh holds a Bachelor of Arts (Honours) degree in Psychology and a PhD in the School of Medicine and Pharmacology – both from UWA. For his PhD, he was based at the Centre for Clinical Research in Neuropsychiatry, Graylands Hospital, investigating the affective modulation of the human eye blink reflex in patients diagnosed with bipolar disorder, major depression, and various anxiety disorders. Leigh has worked as a Research Officer at Paradigm Diagnostics and is now employed by the Institute to work on the development of a diagnostic module for otological disorders. It is hoped this will supplement existing teleological technologies for more accurate diagnosis of ear disorders in remote communities.

### Raquel Fernandez

Raquel has a Bachelor of Science (Human Communication Science) from Curtin University, a Masters of Health Science (Speech-Language Pathology) from the University of Sydney, and a Masters of Clinical Audiology from UWA. She is engaged in research at the LEHI investigating speech discrimination, sound localisation and quality of life in children with bilateral cochlear implants. She has previously worked in speech pathology with children with intellectual disabilities and continues to provide private speech therapy. She has been on the Board of Directors for Better Hearing Australia for the past 6 years. Raquel developed a Speech Reading Booklet and recently developed the Pardoners and Partners Program which is a communication training program for hearing impaired adults and their partners.



## Research - Students

### **Keith S Anandacoomaraswamy, PhD Student**



Keith holds a Bachelor of Medicine and a Bachelor of Surgery degree from the University of Western Australia. His early involvement with the Institute included presenting work at major otolaryngology meetings and contributing to journal publications. His successful admission

into the Advanced Surgical Training programme for otolaryngology as a Surgeon-Scientist saw Keith commence a full-time PhD at UWA under the supervision of Associate Professor Robert Eikelboom and Professor Marcus Atlas. His research has further evaluated the structure of the tympanic membrane (eardrum) and produced new work on its poorly understood ultrastructure. He has also performed a meta-analysis to analyse the outcomes of surgery to repair chronic tympanic membrane perforations. Keith's work has laid the foundation for Dr Reza Ghassemifar to set up and co-ordinate the Institute's tissue engineering laboratory to progress the work of tissue engineering a human tympanic membrane.



### **Dr Peter Santa Maria, PhD Student**

Peter graduated from the University of Western Australia in 2001. He commenced basic surgical training in 2003 during which he developed an interest in Otolaryngology. In 2005 whilst

working as an Otolaryngology Registrar he was enrolled in a Masters project at UWA. As part of his advanced training in Otolaryngology he is involved in research of tissue engineered tympanic membranes. By studying the histology, immunohistochemistry and gene regulation of healing tympanic membranes he hopes to be able to develop an animal model to study chronic perforations.



### **Kian Kuchakpour, Engineering/Science Student**

Kian is in his final year of a combined degree of electronic engineering and biomedical science at the University of Western Australia. His work at the Institute includes the primary setup and

installation of the tissue welding laser as well as the design and implementation of a computer programme for operating the laser. He is also doing his final year's electronic engineering

honours project at the Institute on Laser-Tissue interaction in the ear. Kian received the William & Marlene Schrader Undergraduate Biomedical Engineering Award, and the Lions Ear and Hearing Institute Summer Scholarship 2005/6.



### **Charles Mak, Engineering/Computer Science Student**

Charles is a fourth year student at the University of Western Australia, majoring in Mechatronics Engineering and Computer Science Applications.

His current project with LEHI is in tele-audiology, where he is concentrating on the hardware development of a novel audiometer. Charles is the recipient of a Lions Ear and Hearing Institute Summer Scholarship 2005/6.



### **Jason Jiesheng Liu, Electronic Engineering/ Computer Science Student**

Jason is a fourth year Science/Engineering student at the University of Western Australia. His work is concentrated on the development and improvement

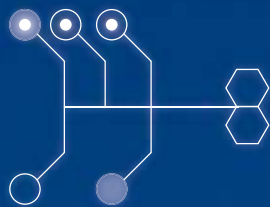
of the administrative functionalities of the AurisAssess telemedicine software, allowing an elegant and flexible user interface for database administrators. Jason's project involves programming with PHP, MySQL and Apache, and he is the recipient of a Lions Ear and Hearing Institute Summer Scholarship 2005/6.



### **Dmytro Bugayev, Engineering/Computer Science Student**

Having completed four years of a BEng/BCompSci course at UWA, Dmytro is gaining solid experience in the IT industry and his LEHI summer

scholarship project focuses on speech spectrograms. His interest is in sound and speech and he sees his final year project at UWA being one which will involve investigating novel ways of speech de-noising using wavelets. Dmytro particularly enjoys the interaction with other vacation students working on a variety of projects, and the excellent facilities that working at the LEHI offers. He is the recipient of the Lions Ear and Hearing Institute and UWA School of Surgery and Pathology Summer Scholarship 2005/6.



### **Natalie Moska, Science Student**

Natalie would like to continue her studies with Honours, and has used the laboratory work experience as an excellent opportunity to get a feel for this. In her words, the summer

scholarship has been an “invaluable experience.” Being part of a current research project and working on tympanic membrane and wound healing has shown her that developments in a lab can have an enormous impact on treatment options for people. Natalie is the recipient of a Lions Ear and Hearing Institute and UWA School of Surgery and Pathology Summer Scholarship 2005/6.



### **Emma Brooks, PhD Student**

After completing Honours in Molecular Biology, Emma received a Science and Innovation Studentship Award. Thanks to this, and the LEHI, she has had the opportunity to participate in

groundbreaking tissue engineering research and gain valuable industry experience. Her project has been focused on the tissue engineering laboratory's work of growing tympanic membrane cells on synthetic membrane scaffolds, examining their interaction with the membrane and determining the conditions for optimal cell growth. Emma is the recipient of the Office of Science and Innovation, WA Department of Premier and Cabinet, Science and Innovation Studentship Award, 2005/6. She is preparing to start a PhD at the Institute.

### **Kasun Liyanaarachchi, Engineering/Computer Science Student**

Kasun is currently an Honours student at the University of Western Australia. He holds a BEng/BSc degree with majors in Mechatronics, IT Systems and IT Applications. He has previously worked at LEHI as a summer vacation student, and has continued to work part time during university holidays. His focus has been on the hearing localisation software used by the audiologists. This work is being extended to incorporate other audiology tests. Kasun received a Lions Ear and Hearing Institute Summer Scholarship for 2004/5.

### **Undergraduate Project Students**

Wan Mei Ang  
Ben Addison  
James Anderson  
Lucy Atkins  
Carsten Broeze  
Matthew Cechner  
Eric Chu  
Hemant Garg  
Kathryn Hersbach  
Tee Ching Hun  
Julia Nga Man Leung  
Irwin Kashani

Mathew James  
Lauren Megaw  
Mark Osborne  
Jason Pang  
Paul Ricciardo  
Suzannah Robinson  
Paul Sander  
Jade Toh  
David Williams  
Subashini Valayutham  
William Wong  
Laura Zagorski





# Lions Hearing Clinics Report



## Lions Hearing Clinics

The ideals of the Lions Hearing Clinics have continued to be realised during 2005, with growth and achievement clearly visible in the delivery of a multidisciplinary approach.

Hundreds of Western Australians have visited the Clinics in the past year to seek advice on ear and hearing problems, and they have received assessments and treatments from a professional team that offers a 'complete care' service model and operates in close collaboration with the research team at the Institute.

The year has seen our core areas of adult diagnostic audiology, implant and rehabilitation services grow strongly in structure and size. A new structure has been given to our children's services and we have also introduced new clinics, such as the tinnitus treatment clinic.



## Implant Clinic

In January this year, we experienced a first in Western Australia when Professor Marcus Atlas carried out an Auditory Brainstem Implant (ABI) for a patient, Mr Brennan Newman. Clinic Audiologist Roberta Marino undertook

the complex task of switching on, programming and tuning the implant for Mr Newman, so that it may provide optimal benefits for him.

Roberta described the experience of working on this breakthrough as both fascinating and rewarding. "Mr Newman can now detect signals and receive auditory sensations. Instead of living in a completely silent world, his communication with his family and friends is now enhanced with the ABI device."

Over the past year our implant clinic has continued to grow and it now occupies much of the week for two senior Audiologists. Part of this is due to the large increase we have experienced in the number of patients assessed at the Clinics for cochlear implantation, and this has required increased expertise and new initiatives in this exciting area. At the same time, we have faced the added challenges of running these services with irregular and often insufficient funding.

## Tinnitus Treatment

It is pleasing to report that new areas of clinical practice have been established in the past year. One of these is our tinnitus treatment clinic which is now providing clients with the revolutionary Neuromonics Tinnitus Treatment. The Lions Hearing Clinics have been the only other accredited service provider in the state that have been authorised to offer this new treatment other than Neuromonics' own clinic. Audiologist Gemma Ivey is currently heading up the program for Lions.

## Serving the Community

Significant work and resources have been put in place in the past year to provide substantial services and information to the hearing impaired community. This includes updating our literature on hearing issues and specific ear and hearing conditions, and maintaining an informative website. We have also introduced a quarterly hearing newsletter.

In addition to these activities, giving our screening program more structure and consistency has been a key goal. The Institute continues to be involved in speaking to numerous local groups about hearing and promoting a high level of awareness of hearing problems and related issues.

## Audiology

The audiology staff continue to integrate their clinical work with research. Many audiological research projects are being conducted in areas such as tele-otology, automated testing, vestibular testing, single-sided deafness and implants.





In addition, the past year has seen our Audiologists contribute to many professional journals as well as presenting their findings at national and international conferences. This all means that our services remain at the leading edge of ear and hearing developments, and that our patients enjoy access to the very latest research and practices.

### **New Murdoch Clinic**

The new Murdoch Clinic has seen its first full year of operation. This has been extremely successful, and we are particularly pleased with the community support in the local area. As well as providing adult rehabilitation services, this clinic hosts the Neuromonics Tinnitus Treatment as well the services of Alexander Ring, a Vestibular Physiotherapist.

The Murdoch Clinic now operates in addition to the established Lions Hearing Clinics at Joondalup and at Nedlands, and the Lions Hearing and Balance Clinic also at Nedlands (Sir Charles Gairdner Hospital).

### **Staff**

We have welcomed Audiologist Elle Chapman to the Lions Hearing Clinics this year, and her valuable experience in adult rehabilitation has ensured she is an important part of the team.

Of course the entire team of Audiologists and Administration staff deserve sincere thanks and appreciation for their commitment and hard work and their ongoing enthusiasm for our success.

In handing over management of the clinics to Gemma Edwards, I would like to reiterate that it has been a privilege and honour to work with this group of dedicated Audiologists and wonderful support staff. The past three years have seen the further evolution of the clinics as they continue to strive to become centres of excellence.

I wish Gemma and her team well in continuing this journey as the Lions Hearing Clinics take their rightful place as a quality community resource supporting world-leading research and providing specialist services on a daily basis to the hearing impaired.

My thanks and good wishes go to the Lions Hearing Clinics and the Institute as they forge ahead in the provision of a unique clinical and research focused service that benefits Western Australia and ultimately the international community.

Kate Lewkowski  
Deputy Director, Audiology

## Clinic Audiologists



### Gemma Edwards

Gemma commenced work at the Lions Ear and Hearing Institute in 2004 after completing a Bachelor of Science and then Masters of Clinical Audiology at the University of Western Australia. She is based in the Nedlands clinic

and concentrates on adult assessment and rehabilitation of hearing loss, and conducts a weekly vestibular clinic. Gemma will take over from Kate Lewkowski and as the Head of Audiology is now responsible for the day-to-day management of the Lions Hearing Clinics. Gemma also participates in research projects, particularly automated audiometry.



### Katrise Eager

Katrise graduated from the University of Queensland with a Diploma of Audiology following completion of a Bachelor of Speech Pathology. Since 2001 she has been working on the Institute's hearing implant program,

particularly on cochlear implants and bone anchored hearing aids (BAHA). She is combining her clinical work with a Masters of Medical Science research project on the BAHA, investigating outcomes with patients fitted with these devices, and developing audiological criteria for single sided deafness. This involves a multi-centre trial with units in New South Wales and Queensland.





### **Gemma Ivey**

Gemma has been at the Lions Ear and Hearing Institute for 3 years, and has approximately 10 years experience in audiology. She completed a Bachelor of Science (Health Promotion) and then a Diploma of Audiology at Curtin University. She initially worked in the Nedlands clinics focusing on adult assessments, rehabilitation and bone anchored hearing aids. After the Murdoch clinic opened 18 months ago, Gemma moved south and now specialises in tinnitus assessment and management as well as adult rehabilitation. Gemma has presented at international conferences on tinnitus and the problems of single sided hearing loss.



### **Roberta Marino**

Roberta joined the Lions Ear and Hearing team in the Hearing and Balance Management Centre in 2004. She previously worked at the Speech and Hearing Centre for many years. Since then she has been involved in our ever-growing implant program comprising cochlear implantation and bone anchored hearing aids. Hearing aid fittings and audiological diagnostic work is also part of her caseload. Roberta's research projects include the investigation of residual hearing and inter-operative monitoring. She has also conducted a number of remote area clinics in the Kimberly, which included work on sound fields in classrooms, and the links between hearing and auditory memory. Roberta graduated with a Diploma of Audiology at Curtin University and also has a Bachelor of Science in Speech Pathology.



### **Elle Chapman**

Elle previously studied Human Biology at Curtin University and completed a Masters in Clinical Audiology at UWA in 2003. She has been with the Lions Ear and Hearing Institute since early 2005. Elle alternates her time between the Nedlands and Joondalup clinics. She focuses on adult hearing assessment and hearing aid rehabilitation.



### **Ginny Wright**

Ginny entered audiology as a mature age student after raising four children. She completed a Diploma of Audiology at Curtin University and has worked in Perth as an Audiologist for 13 years. Her main interest is adult rehabilitation. She now works part time in our Joondalup clinic and concentrates on adult hearing assessment and hearing aid fittings with some paediatric testing.



### **Anna Kania**

Anna has worked as an Audiologist for 13 years. She has a background in early childhood education and specialised in music education, obtaining an honours degree in that area. This study further fuelled her interest in helping those with hearing loss. Following its completion, she commenced studies in audiology. She was employed full-time at the Lions Hearing Clinics for over eight years. During this time, she was asked to travel to China to be part of a delegation of professionals with skills and experience in the area of learning disabilities in children where she subsequently presented information on central auditory processing. Her time at the Lions Hearing Clinics was later followed by employment at a private audiological clinic where she provided mainly adult hearing aid fittings, and part-time work for a private paediatric ENT consultant. Whilst working at these clinics she commenced further study and graduated with a Master of Science from the School of Public Health at Curtin University, with a focus on Public Health Policy and Management. As part of the programme, she undertook research into the area of school-age hearing screening, and presented this research at the National Audiological Society of Australia Conference in Brisbane in 2004. Her current work at the Lions Hearing Clinics has seen her take on a predominantly paediatric caseload, specialising in central auditory processing assessment.



## Publications, Presentations and Grants

### Publications

**Anandacoomaraswamy KS, Dutton N, Rajan GP, Eikelboom RH, Atlas MD, Robertson T** (2005) Utilisation of fresh human tympanic membranes for structural analysis and cytokeratins immunocytochemistry implementing resin techniques, *ACTA Oto-laryngologica*, 126(2):149-53.

**Anandacoomaraswamy KS, Watts GD, Eikelboom RH, Bremner AP, Bulsara MK, Atlas MD, Rajan GP.** Meta-analysis of myringoplasty, submitted for publication.

**Atlas MD, Eisenberg R (eds.)** (2004) *A Guide to Temporal Bone Dissection*, 2nd edition, Perth, Lions Ear and Hearing Institute.

**Atlas MD** (2004) *Ear and Temporal Bone Surgery – A DVD Video Guide*.

**Banerjee A, Whyte A, O'Sullivan P, Atlas MD** (2005) Endolymphatic sac tumor. *Otology and Neurotology* 26(4):819-2.

**Banerjee A, Whyte A, Atlas MD** (2005) Superior canal dehiscence: review of a new condition. *Clinical Otolaryngology*. 30(1):9-15.

**Blackham R, Eikelboom RH, Atlas MD** (2004) Assessment of utilisation of ENT specialists by patients in remote and rural areas, *Australian Journal of Rural Health*, 12:150-1.

**Eikelboom RH, Atlas MD** (2004) Tele-otology for children with chronic ear disease. In: *Telepediatrics: Telemedicine and Child Health*. Wootton R, Batch J, editors. Oxford: Royal Society of Medicine. p. 163-73.

**Eikelboom RH, Atlas MD, Mbao MN, Gallop MA.** (2004) Tele-otology: diagnosis and management of ear disease of patients in remote areas, *Australia and New Zealand Journal of Audiology*, 26:S15-S16.

**Eikelboom RH, Mbao MN, Atlas MD, Coates H, Gallop MA** (2005) Validation of tele-otology to diagnose ear disease in children, *International Journal of Pediatric Otorhinolaryngology*, 69(6): 739—744.

**Eikelboom RH, Atlas MD** (2005) Attitude to telemedicine, and willingness to use it, in audiology patients. *Journal of Telemedicine and Telecare*, 11 (Suppl 2):22-5.

**O'Sullivan P, Atlas M** (2004) The use of soft tissue vascular flaps for mastoid cavity obliteration. *Laryngoscope* 114: 957-959.

**Patton N, Aslam TM, MacGillivray T, Deary IJ, Dhillon B, Eikelboom RH, Yogesana K, Constable IJ** (2005) Retinal Image Analysis: Concepts, Applications and Potential, *Progress Retinal Eye Research (Review)*, 25(1):99-127.

**Rajan GP, Eikelboom RH, Anandacoomaraswamy KS, Atlas MD** (2004) In vivo performance of the nitinol shape memory stapes prosthesis during hearing restoration surgery in otosclerosis. A first report. *Journal of Biomedical Material Research, Part B, Applied Biomaterials*. 72(2):305-9.

**Rajan GP, Atlas MD, Subramaniam K, Eikelboom RH** (2005) Eliminating the limitations of manual crimping in stapes surgery? A preliminary trial with the shape memory Nitinol stapes piston, *Laryngoscope*, 115(2):366-9.

**Rajan GP, Din S, Atlas MD** (2005) in-vivo cyclic counterpressure application on the endolymphatic hydrops in Meniere's Disease. Is the Meniette device a treatment option? *Journal of Laryngology and Otology*, 119(5): 391-395.

**Subramaniam K, Eikelboom RH, Eager KM, Atlas MD** (2005) Unilateral profound hearing loss and the effect on quality of life after cerebellopontine angle surgery. *Otolaryngology - Head and Neck Surgery*, 133:339-346.

**Subramaniam K, Eager KM, Ivey GE, Eikelboom RH, Atlas MD** (2005) Bone Anchored Hearing Aids - Improving Quality of Life for acoustic neuroma patients with unilateral hearing loss, *ANZ Journal of Surgery*. 75:A138.

**Subramaniam K, Rajan GP, Eikelboom RH, Marino R, Atlas MD** (2005) Patient's quality of life and hearing outcomes after stapes surgery, submitted for publication.

### Presentations and Posters

**Anandacoomaraswamy KS.** Tympanic Membrane Reconstruction: The Role of Tissue Engineering, ANZBA/ McCOMB Research Day, May 2005, Perth.

**Anandacoomaraswamy KA, Watts GD, Eikelboom RH, Atlas MD, Rajan GP.** Successful Myringoplasty (Type I Tympanoplasty): A Meta-analysis Comparing Paediatric and Adult Populations, The International Meeting of Australasian Society of Paediatric Oto-rhino-laryngology, July 2005, Fiji.

**Anandacoomaraswamy KS, Robertson T, Dutton N, Eikelboom RH, Atlas MD.** Tympanic membrane structure – a prelude to tissue engineering. *Frontiers in Otorhinolaryngology*, Noosa, Queensland, July 2004.

**Anandacoomaraswamy KS, Dutton N, Rajan GP, Eikelboom RH, Atlas MD, Robertson T.** Utilisation of fresh human tympanic membranes for structural analysis and cytokeratin immunocytochemistry implementing resin techniques, *Surgical Research Society of Australasia 42nd Annual Scientific Meeting*, May 2005, Perth.



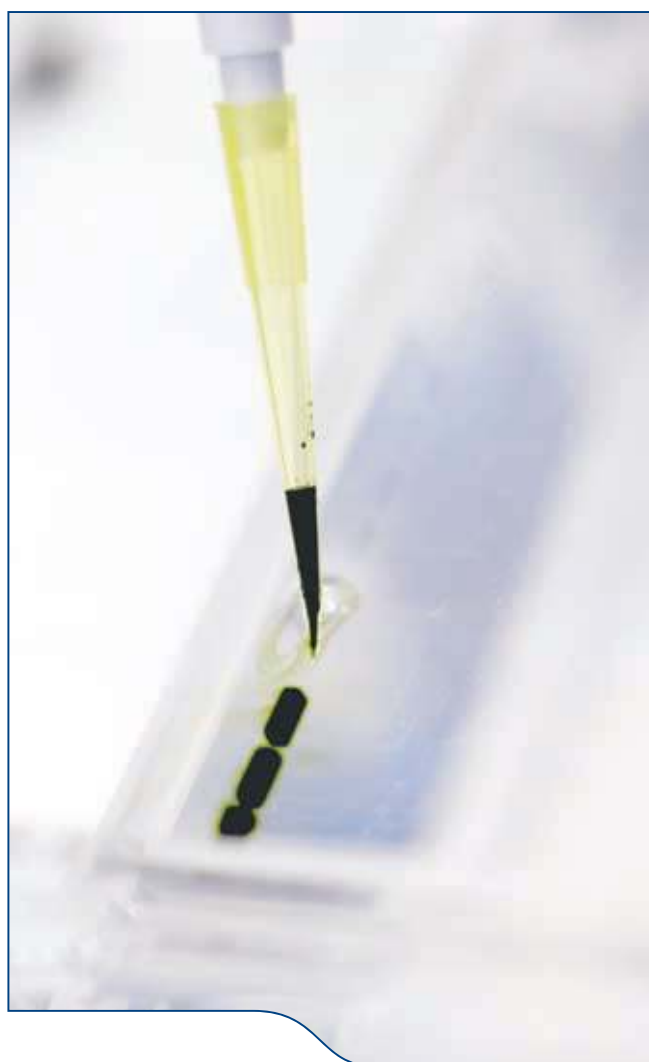


**Atlas MD, Rajan GP, Anandacoomaraswamy KS, Subramaniam K, Eikelboom RH.** Improving hearing outcomes with the Nitinol self-crimping, shape memory stapedectomy prosthesis, Surgical Research Society of Australasia 42nd Annual Scientific Meeting, May 2005, Perth.

**Eager KM, Ivey G, Atlas MD.** Bone anchored hearing aids – an audiological perspective. Recent Advances in Audiological Science. Society for Audiology Professionals, 2nd scientific meeting, Singapore, September 2004.

**Eager KM.** Bone anchored hearing aids for single sided deafness- what do users really think? The Acoustic Neuroma Conference, Princess Alexandra Hospital, Brisbane, July 2005.

**Eager KM.** Cochlear implants in the elderly- a growing need. Geriatric and Rehabilitation Conference, Fremantle.



**Eager KM, Ivey G, Atlas MD.** Bone anchored hearing aids – indications and assessment. Implantable Hearing Aid Workshop, University of Western Australia, July 2004.

**Eikelboom RH, Mba MN, Coates HL, Atlas MD, Gallop M.** Validating tele-otology to diagnose and manage ear disease in remote communities. 4th International Conference on Success and failures in Telemedicine, Brisbane, July 2004.

**Eikelboom RH, Atlas MD (2005)** Attitude to telemedicine, and willingness to use it, in audiology patients. 5th International Conference on Success and failures in Telemedicine, Brisbane, August 2005.

**Eikelboom RH.** Tele-otology - Improving access of ear services to the remote areas. ASA Continuing Education Seminars, Alice Springs and Darwin, July 2004.

**Lewkowski K.** Basics in Vestibular Testing. Association of Neurophysiological Technologists of Australia, Perth, August 2005.

**Rajan GP, Atlas MD, Eikelboom RH.** The Nitinol stapes piston: the end of manual crimping? Frontiers in Otorhinolaryngology, Noosa, Queensland, July 2004.

**Subramaniam K, Atlas MD, Eikelboom RH, Eager KM.** Unilateral profound hearing loss and quality of life after cerebellopontine angle surgery. Frontiers in Otorhinolaryngology, Noosa, Queensland, July 2004.

**Subramaniam K, Eager KM, Ivey GE, Eikelboom RH, Atlas MD.** Bone Anchored Hearing Aids - Improving Quality of Life for acoustic neuroma patients with unilateral hearing loss, Surgical Research Society of Australasia 42nd Annual Scientific Meeting, May 2005, Perth.

## Grants

**Garnett Passe and Rodney Williams Memorial Foundation:** Tissue engineering of the human tympanic membrane, Surgeon-scientist Scholarship, \$40,000.

**Garnett Passe and Rodney Williams Memorial Foundation:** Laser welding, Project grant, \$51,663.

**The University of Western Australia/DEST:** Teaching and research, \$9,681.

**Western Australian Medical Research Infrastructure Fund:** \$12,341

**Corporate supporters:** Medtronic, Xomed, CWL Medical Enterprises, Sonic Innovations \$32,750.

**Fellowship support from TWJ Foundation (UK).**

# Financial Report



## Lions Ear and Hearing Institute of Western Australia Incorporated

The following financial information is taken from the Audited Special Purpose Financial Statements for the year ended 30 June 2005 and provides the key indicators of performance and activities for the fourth year of operations.

### STATEMENT OF INCOME AND EXPENDITURE FOR THE YEAR ENDED 30 JUNE, 2005

	2005	2004
	\$	\$
Income for Research and Clinical Services	2,475,879	1,842,950
Expenditure on Research and Clinical Services	2,238,371	1,662,773
Operating Surplus/(Deficit) before depreciation	237,508	180,177
Depreciation	39,883	36,646
Operating Surplus/(Deficit) after depreciation	197,625	143,531
Accumulated Surplus at the end of the year	327,212	216,587

### BALANCE SHEET AS AT 30 JUNE, 2005

	2005	2004
	\$	\$
<b>MEMBERS' FUNDS</b>		
Accumulated Surplus	327,212	216,587
<b>TOTAL MEMBERS' FUNDS</b>	327,212	216,587
Represented by:		
Cash at the Bank	678,196	574,294
Other Assets	324,221	256,968
Property Plant and Equipment	106,997	97,495
<b>TOTAL ASSETS</b>	<b>1,109,414</b>	<b>928,757</b>
Creditors and Borrowings	403,836	391,424
Research Grants	331,143	299,250
Provisions	47,223	21,496
<b>TOTAL LIABILITIES</b>	<b>782,202</b>	<b>712,170</b>
<b>NET ASSETS</b>	<b>327,212</b>	<b>216,587</b>



## CASH RESERVES AS AT 30 JUNE 2005

The LEHI'S cash reserves include amounts specifically set aside for ongoing research projects.

The cash reserves for research projects are therefore:

	2005	2004
	\$	\$
Cash at Bank	678,196	574,294
Research Grant Funds not yet expended	331,143	299,250
General Cash Reserves Available	347,053	275,044

NOTE.

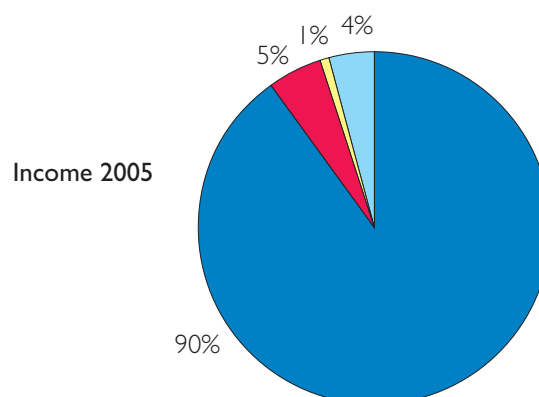
The University of Western Australia administers a number of grants for research activities of the LEHI.

UWA Research Funds not yet expended	106,432	51,077
<b>Total Cash Reserves</b> ( including UWA held funds)	<b>784,628</b>	<b>625,371</b>

## STATISTICAL SUMMARY:

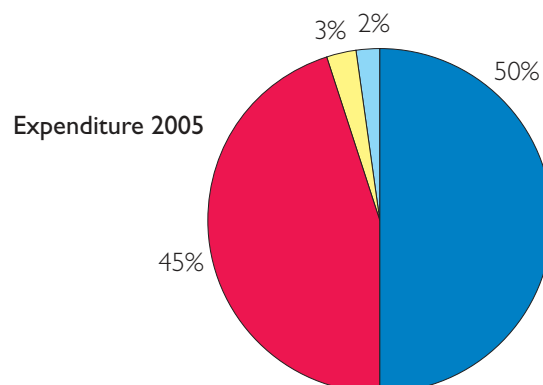
### INCOME FOR THE YEAR ENDED 30 JUNE 2005

Clinical and Audiological	90%
Research grants	5%
Donations	1%
Other	4%



### EXPENDITURE FOR THE YEAR ENDED 30 JUNE 2005

Staffing (salaries, fees and on-costs)	50%
Research and clinical	45%
Equipment, depreciation and maintenance	3%
Administration and overheads	2%





# Lions Hearing Foundation - Chairman's Report

## Annual General Meeting - 31st October 2005

On behalf of the Board of Directors of the Lions Hearing Foundation of WA (Inc) I present my report as Chairman.

### International President Clem Kusiak

During the visit of International President Clem Kusiak to Perth in April, I had the pleasure on behalf of the Foundation, to arrange for him to visit The Lions Ear and Hearing Institute.

Given its relatively short existence, he was most impressed with the research activities, in particular the tele-medicine and "Lions Hearing Foundation Tissue Engineering Laboratory" projects.

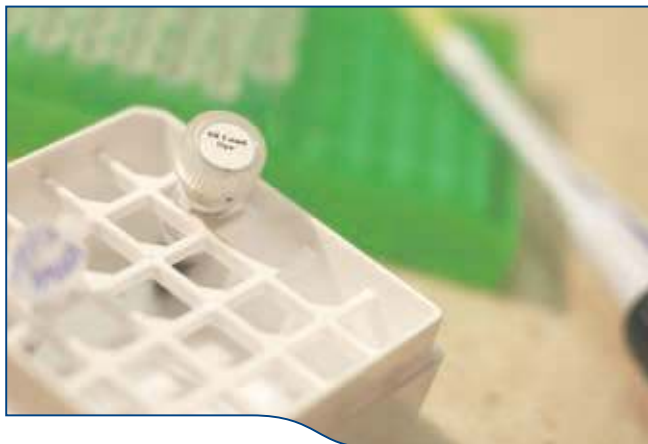
### Hearing Bus

Sign-writing on our new bus promotes the Foundation as well as the Lions Ear and Hearing Institute. This was completed in time for our International President to inspect during his visit of the LEHI. A photograph of the Official Party standing at the side of the bus was published in the "West Lion".

### Screenings

Screenings remain a very important activity as a free service to the public and as a promotional exercise for the Foundation. Again this year, under Chairman Bob Morgan, the bus has been in demand State-wide, and clubs are finding that they need to book early to avoid disappointment.

Ever conscious of our liability, a disclaimer clause features as part of the examination form handed to the general public. The newly designed forms also support the Hearing Clinics in Nedlands, Joondalup and Murdoch. The LEHI has helped considerably in providing professional expertise to our screening programme.



## Treasurer's Report

The financial statement for the year ended 30th June 2005 has been completed by auditor Mr Rod Broughton, and duly signed. Treasurer Allan Cooper will give a separate report on the documents tabled.

### Lions Hearing Aid Bank

In last year's report I stated that the Foundation was endeavouring to establish a bank of used hearing aids. This has now come to fruition. HBF have advertised in their "Wellnow" Magazine that they will provide outlets for the collection of used hearing aids in support of the Lions Clubs of WA.

Audiometrist, Deidre Reader, has generously donated her time and expertise to help triage the many hearing aids collected. Work is well in progress and already 400 to 500 hearing aids have been distributed. Deidre's employer is Pierce Laboratories, who have kindly consented for her to use their equipment and technical help to evaluate, repair and calibrate the hearing aids. Associated costs such as hearing aid tubing and batteries are paid for by the Foundation.

The programme is essentially to provide hearing aids for Australian people who cannot afford them and are not eligible for government provided hearing aids, such as adults between 21 and 65 years. The other group who would benefit from hearing aids, particularly the analogue type which would be easier to programme, are children in deaf schools overseas.

There are currently three different groups who will benefit. They are:

1. The group at the Karya Mulia school for deaf children in Surabaya
2. Children in Bali who come under the aegis and care of the John Fawcett Foundation
3. Those children in Ethiopia who have expressed an interest via Joy Sinclair

District Chairman Joy Sinclair is to be congratulated for her initiative in commencing this project. She has been ably assisted by Dr Harvey Coates, particularly in gaining the services of Deidre Reader.



### Lions Ear and Hearing Institute

As mentioned earlier, the Institute continues to thrive particularly in the area of research, resulting in the employment of an additional scientist, another PhD student, and a research assistant to cover the increased workload.

The Board of Directors of your Foundation has always maintained the mandate to promote and fund the Institute wherever possible, and by so doing has significantly contributed to its success. All financial commitments to the Institute have now been completed, with the exception of the Child Subsidy Scheme which is ongoing. Listed below are those commitments the Foundation has financially supported during the past five years.

	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	TOTALS
Child Subsidy Scheme	\$15,195	\$26,485	\$12,560	\$8,540	\$6,450	\$69,230
Grants To LEHI	\$221,125	\$50,000	\$0	\$215,000	\$148,500	\$634,625
Research Institute Costs	\$33,894	\$214,827	\$60,947	\$24,389	\$0	\$334,057
LEHI Debt Loan Forgiven	\$0	\$0	\$99,890	\$0	\$0	\$99,890
TOTALS	\$270,214	\$291,312	\$173,397	\$247,929	\$154,950	\$1,137,802

In closing, I would like to sincerely thank all members of the Board of Directors for their contribution to the Foundation. Also Lions Ear and Hearing Institute Director, Professor Marcus Atlas, Research Officer Rob Eikelboom and Deputy Director of Audiology Kate Lewkowski, for their expert advice and assistance during the past twelve months.

PCC Ian Kelly  
 Chairman  
 Lions Hearing Foundation of W.A. (Inc)



## Lions Hearing Foundation - Financial Report

The following financial information is taken from the Audited Special Purpose Financial Statements for the year ended 30 June 2005 and provides the key indicators of performance and activities for the year of operations.

### STATEMENT OF FINANCIAL POSITION

AT 30 JUNE, 2005

	2005	2004
	\$	\$
<b>CURRENT ASSETS</b>		
Cash & bank balances	897,217	991,568
Receivables	165	7
	<u>897,382</u>	<u>991,575</u>
<b>NON-CURRENT ASSETS</b>		
Investment & loans	77,809	77,809
Plant & equipment	286,637	301,837
	<u>364,446</u>	<u>379,646</u>
<b>TOTAL ASSETS</b>	<u>1,261,828</u>	<u>1,371,221</u>
<b>CURRENT LIABILITIES</b>		
Accounts payable	1,655	1,619
	<u>1,655</u>	<u>1,619</u>
<b>TOTAL LIABILITIES</b>	<u>1,655</u>	<u>1,619</u>
<b>NET ASSETS</b>	<u>\$1,260,173</u>	<u>\$1,369,602</u>
<b>EQUITY</b>		
Reserves	100,000	100,000
Retained profits	1,160,173	1,269,602
	<u>1,260,173</u>	<u>1,369,602</u>
<b>TOTAL EQUITY</b>	<u>\$1,260,173</u>	<u>\$1,369,602</u>





## STATEMENT OF FINANCIAL PERFORMANCE FOR THE YEAR ENDED 30 JUNE, 2005

	2005 \$	2004 \$
<b>INCOME</b>		
Donations	22,134	16,118
Children's film festival	35,000	35,000
Interest	38,959	56,322
Profit on sale of asset	1,220	-
Sundries	-	7
	<u>97,313</u>	<u>107,447</u>
<b>EXPENDITURE</b>		
Audit fees	1,950	2,320
Advertising & promotion	362	1,444
Bank charges	50	56
Child subsidy scheme	6,450	8,540
Depreciation	33,111	35,754
Donation	5,200	-
Grants to LEHI	148,500	215,000
Insurance	3,440	2,235
Meeting expenses	93	-
Postage, printing & stationery	365	362
Research Institute costs	-	24,389
Screening bus expenses	3,828	6,609
Screening costs	2,998	2,828
Sponsorship & donations	-	112
Sundries	395	34
	<u>206,742</u>	<u>299,683</u>
<b>Operating Loss for the year</b>	<u><b>\$109,429</b></u>	<u><b>\$192,236</b></u>

## Corporate Directory



### Council of Governors

**Mr Robert Cole, Chair**

Partner, Mallesons Stephen Jaques Commercial Lawyers

**Prof Val Alder**

Emeritus Professor, Division of Research & Development, Murdoch University

**Prof Marcus Atlas**

Director, Lions Ear and Hearing Institute, Chair of Otolaryngology, University of Western Australia

**Mr Ambrose Depiazzi**

Lions Hearing Foundation

**Mrs Susan Bergersen**

Managing Director, Natcon Commercial Group Management Consultants

**Assoc Prof Harvey Coates**

Lions Hearing Foundation

**Mr Keith Cooke**

Lions Hearing Foundation

**Mr Ian Kelly**

Lions Hearing Foundation

**Prof Alan Robson**

Vice Chancellor, University of Western Australia

**Dr David (Russ) Russell-Weisz**

Area Executive Director, Medical Services and Area Executive Director, Sir Charles Gairdner Group

**Dr Dorothy Jones**

Principal Medical Officer & Divisional Director, Safety & Quality in Health Care, Department of Health of Western Australia

### Executive Board

**Mrs Susan Bergersen, Chair**

Managing Director, Natcon Commercial Group Management Consultants

**Prof Val Alder**

Emeritus Professor, Division of Research & Development, Murdoch University

**Prof Marcus Atlas**

Director, Lions Ear and Hearing Institute, Chair of Otolaryngology, University of Western Australia

**Mr Robert Cole**

Partner, Mallesons Stephen Jaques Commercial Lawyers

**Mr Graeme Jolley**

Director, Bentleys MRI, Chartered Accountants

**Dr Paul van Saarloos**

Laser Physicist, Chief Executive Officer, CustomVis

**Mr Jim Murphy**

Managing Director, JMG Marketing (Aust) Pty Ltd

**Mr Tim Willing**

General Manager, Multiplex Living



## Organisational Structure

### Otolaryngologists and Surgical Registrars

Professor Marcus Atlas  
Adj Assoc Clin Prof Harvey Coates  
Dr Tim Cooney  
Dr Gunesh Rajan (Switzerland)  
Dr Ian Mitchell  
Dr Vivian Singh (United Kingdom)  
Dr P Santa Maria  
Dr Chady Sader  
Dr Neil Fergie (United Kingdom)

### Audiologists

Elle Chapman  
Gae Di Francesco  
Katrise Eager  
Gemma Edwards  
Tania Greaves  
Gemma Ivey  
Anna Kania  
Kate Lewkowski  
Roberta Marino  
Ginny Wright

### Researchers

Dr Keith Anandacoomaraswamy  
Dr Ruth Blackham  
Tamara Davey  
Dr Robert Eikelboom  
Mark Gallop  
Dr Reza Ghassemifar  
Dr Mukesh Jain  
Dr Gunesh Rajan  
Sharon Redmond  
Dr Peter Santa Maria  
Dr Kavitha Subramaniam  
Dr Guy Watts



## Thanks and Acknowledgements



### Sue Bergersen

Sincere thanks are due to Sue for the enormous contribution she has made during the five years of her service as Chair of the Lions Ear and Hearing Institute. Sue was deeply involved in the initial establishment of the Institute, and her considerable experience and skills played an important part in getting that right. Since then she has worked tirelessly on behalf of the LEHI, adding significant value to all aspects of our functioning as a world class research institute. Her enthusiasm and vision will continue to drive us forward, and Sue will remain a Board member. We thank Sue for her dedication and outstanding contribution as Chair of the Institute, and look forward to continuing our relationship with her.

### Kate Lewkowski

Kate has been instrumental in helping to give the Lions Hearing Clinics a refreshed public face, and grateful thanks go to her for her dedication and commitment in this work over the past three years. Her work of transforming an audiological organisational structure into a leading centre of excellence in audiology has seen an improvement in the range and level of service, and a facility that is able to generate internal funding for the Institute. The Clinics are now even more highly regarded as a quality community resource that offers world-leading services to the hearing impaired, and supports new research in hearing sciences. Our heartfelt thanks to Kate are now accompanied by our very best wishes to her and her husband on the recent arrival of their baby daughter.

### Acknowledgements

Alcon  
Angela Pelosi, Phonak Pty Ltd  
Australia Post  
Barbara Gell, Australian Hearing  
Brennan Newman  
Bruce McMaster and Global Scientific  
Charles Long, CWL Medical Enterprises  
Christian Harris  
Dr Fiona Wood, McComb Foundation and Royal Perth Hospital  
Dr Ming-Hao Zheng, School of Surgery and Pathology, UWA  
Dr Nicola Ritter, Murdoch University  
Dr Terry Robertson, School of Surgery and Pathology, UWA Faculty of Medicine and Dentistry, UWA  
JMG Marketing (Aus) Pty Ltd  
Lynette Fleming - President of Cicada WA  
Mallesons, Stephen Jaques  
Medtronic Xomed  
Neville Nolan  
Patricia Kirk  
Paula Schneider, John Richardson - WAIDE  
Prof Stuart Bunt, Paradigm Diagnostics  
School of Surgery and Pathology, UWA  
Sir Charles Gairdner Hospital  
StateWest Credit Society  
Werner Schwendener, Sonic Innovations







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