Vision

To provide leadership and excellence in health and medical research activities throughout Australia, focusing on lifestyle and ageing issues to improve the future health standards for the Australasian community. In so doing the Foundation plans to provide a lasting legacy to the veterans and war widows who have created the society we have today.

Mission

- To undertake research to study and improve healthcare delivery and outcomes, including epidemiological studies, particularly among the veteran and war widow community and children of veterans.
- To optimise support from the wider community in order to facilitate our vision.
- To promote and conduct health research in the areas of lifestyle and ageing that significantly impact on Australians and their families, and in doing so focus upon the needs of the community serviced by Concord Repatriation General Hospital.
- To construct a state of the art Research Institute on the campus of Concord Repatriation General Hospital.
- To provide leadership and excellence in research activities throughout Australasia.
- To apply research to product development within Australia where possible.
- To sponsor education and training in relevant health disciplines.

Government House
Canberra ACT 2600

As Patron-in-Chief of the ANZAC Health and Medical Research Foundation, I am pleased to provide this foreword to the Foundation's annual report for 2001/2002.

The ANZAC Foundation has, over the seven years since its establishment, worked to provide leadership and excellence in health and medical research activities, with a particular focus on the veteran and war widows' community.

In conducting and promoting research, and in the areas of lifestyle and ageing, the Foundation's work has the potential to significantly impact on the broader Australian community.

During the year, it was a special pleasure for my wife and me to take part, in April, in the official opening of the ANZAC Research Institute laboratories, to see the work of the Foundation first hand and tour the excellent facilities for researchers and other staff who are engaged in furthering its aims.

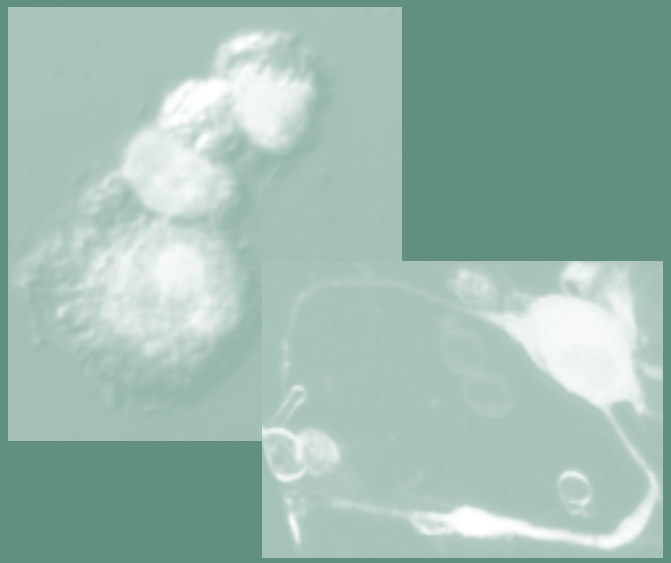
With significant rungs already on the board in terms of research findings, I have no doubt that many more important breakthroughs will be made within the new Institute laboratories.

May I congratulate the Foundation's Chair, Professor John Young AO, members of the Council, Director, Professor David Handelsman, the researchers, staff and all the Australian businesses and individuals who have contributed during the year to the work of this fine institution.

I wish you well in the year ahead in the sure knowledge that you will continue to go from strength to strength.

Peter Hollingworth
Governor-General of the Commonwealth of Australia

ANZAC Research Institute



Neurology Research. Courtesy of Dr Vadim Dedov

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Report from the Chairman

It is my pleasure once again to report for 2001-2002 as Chairman of the Council of the ANZAC Health & Medical Research Foundation, the body that operates the ANZAC Research Institute.

It is now clear that well within a decade of its establishment, the Foundation has gone remarkably far and fast in realising its vision when it officially opened the doors of the ANZAC Research Institute at Concord Hospital. The Official Opening was performed by our Patron-in-Chief, His Excellency the Right Reverend Dr Peter Hollingworth AC OBE, Governor General of Australia, on a sunny afternoon in April 2002. It was very pleasing to acknowledge the continued support of Baxter Healthcare's Mr Brian Lee who sponsored the event and made a generous donation for the purchase of essential scientific equipment to mark the occasion.

I would like to take this opportunity to once again congratulate the many people without whose efforts the ANZAC Health and Medical Research Foundation's 1994 vision to fund and build a medical research facility could not have been realised. The subsequent remarkable success of the Institute now repays all the faith and rewards the efforts of all those involved in the dream. The ongoing support of Central Sydney Area Health Service under its CEO Dr Diana Horvath AO is also a highlight that reflects well the essential modern partnership of the Hospital and University sectors in cultivating and sustaining the highest levels of achievement in medical research.

This year has been one of growth for the ANZAC Research Institute. It is now operating as a fully fledged medical research institute. It has already achieved excellent international recognition for the quality of its work, which is reflected in the top scientists it has attracted, its peer reviewed grant funding and its high quality papers. This strong start augurs very well for the continuing future successes of the Institute.

The Foundation also organised several successful function aimed at raising the profile of the Institute in the community as well as collecting funds to support the Institute's operation. Our annual dinner and auction, held on 19th October 2001 at the Regent Hotel, was attended by about 200 guests. The speaker Lt General Peter Cosgrove gave a vivid and compelling account of recent campaigns involving Australia's defence forces, notably East Timor. The enjoyable function served to raise the profile as well as much needed funds for the Foundation.

The growth and development of the ANZAC Research Institute depends critically on the support and generosity both of private donors and corporate sponsors of the Foundation. We thank our loyal supporters for their generosity and urge everyone to keep the Foundation's work in mind when opportunities arise to foster the highest quality Australian science and medical progress particularly in the field of ageing.

I am sure you will all join me in wishing the Director and his staff continued success and another productive year at the ANZAC Research Institute

Professor J A Young AO, FAA
Chairman

Director's Report

This has been a very busy and successful year. In only its 8th year, the ANZAC Health and Medical Research Foundation has developed from an incorporated charitable foundation aiming to establish high quality research on the Concord Hospital campus, to raising funds, building and now operating a state-of-the-art medical research institute.

Already, the ANZAC Research Institute has been recognised by the National Health & Medical Research Council (NHMRC) as an independent medical research institute and it has also attracted funding from the NSW Health's Research and Development Infrastructure Program, both reflecting the Institute's arrival as a major medical research organisation. It has already been highly successful in attracting top scientists to run our research laboratories. The Institute's growing achievements in grants and publications are outlined in the following pages. It is worth noting that, following the first full year of operations, the Institute has attracted peer-reviewed competitive funding amounting to over $1million from the NHMRC for 2003. It also attracted one of the first round of the NSW Government's BioFirst awards for biotechnology. By any standards, this progress has been remarkably fast and extraordinarily successful.

The Foundation's most significant public event in this past year was the formal opening of the ANZAC Research Institute in April 2002 officiated by our Patron-in-Chief, Governor-General of Australia, the Right Reverend Dr Peter Hollingworth. At a fine ceremony held in front of the new Institute building, speakers acclaimed the successes of the fundraising and building works as well as wishing the Institute well on its launch into the world of medical research. In generous words of support, Dr Hollingworth highlighted the importance of community support for the Institute's future success.

The Institute's state-of-the-art building creates a bright and pleasant working environment that aims to integrate work and social interaction between the scientists. The innovative design emphasizing modular and flexible elements has become a standard for economy and efficiency in modern biological sciences laboratory. Our design featured at industry seminars and has been adopted for redevelopment of the University of Sydney's Medical Foundation building. All the Institute's efforts aim to obtain similar recognition in leadership and innovation.

The Institute's laboratories and facilities are now working actively on research with a focus on ageing.

- Professor Garth Nicholson's Neurobiology laboratory is an international leader in neurogenetic research. They continue to be highly successful in identifying the genetic causes, and the environmental triggers for, neurodegenerative diseases of the peripheral nervous system.
- My own Andrology laboratory studies male reproductive health and biology at all phases of life. Their research has produced major studies of potential new forms of hormone treatment for male ageing to prevent frailty, falls and fractures as well as prostate disease.
- Biogeronotology, headed by Professor David Le Couteur of the Centre for Education and Research on Ageing, published in the Lancet their important new hypothesis on how functional ageing of the liver may accelerate the progression of cardiovascular and other diseases of ageing. This novel approach could develop important new leads and targets for preventing or slowing down the key disorders that afflict older age.
- Bone Biology, headed by Professor Markus Seibel, is establishing research into osteoporosis and bone cancers that was recognised by our 9th inaugural NSW Health BioFirst biotechnology awards.

These form important steps towards our long-term goal of healthy ageing for the veteran and general community by relieving the disorders that stand in its way.

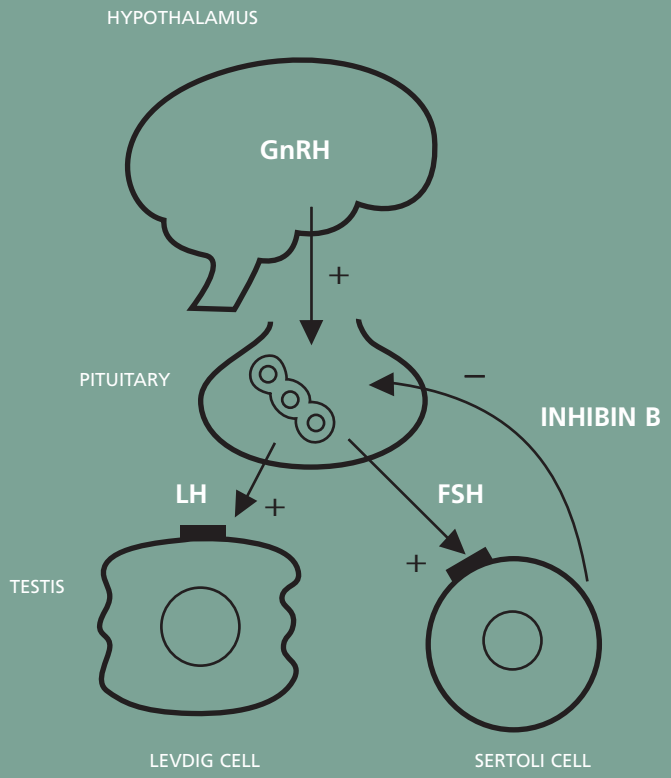
Whilst the Institute's scientists have been extraordinarily successful in obtaining competitive grants and commercial contracts, a key determinant of the Institute's overall future success is its fundraising. For the Institute to maintain its competitive edge in research, and training and retaining world class scientists, it needs expensive, high technology research equipment as well as support for scholarships and fellowships. Tax-free scholarship stipends are a highly cost-effective way to support research for scientific training of the next generation of scientists. Post-doctoral fellowships help create the critical mass of diverse scientific skills that would recruit and retain valuable scientific expertise. Scientific trainees and scientists form the core of future medical research in this country and the Institute's focus on ageing is an important way to ensure that vital research into healthy ageing in Australia is encouraged. It is an important goal that our fundraising efforts should match the successes of our scientists in project grants and scientific discoveries.

The daily life of a research institute involves research meetings, journal clubs and seminars that furnish the right environment for high quality science. Our scientists take on housekeeping tasks that are essential for the Institute's success and I would like to take this opportunity to thank them for their extra efforts. This is also my opportunity to personally thank Professor John Young AO, Chairman of the Council, for his wisdom and support in making the Institute a success. The daily management of the Foundation and Institute rely on the administrative team led by the General Manager, Ms Christine Harrison, whose organisation has made our Opening and Annual Gala Dinners great successes. The Institute owes thanks to Mamdouh Khalil for his skills and service in managing the Molecular Physiology Unit. Thanks are also due to the members of the Council whose support of our shared goals is much appreciated. In particular the goodwill and support continue to be unhesitating from Dr Diana Horvath, CEO of the Central Sydney Area Health Service and of Mr Matthew Daly and Dr Margaret Sanger of Concord Hospital. Finally, I thank our many friends and supporters whose continuing constructive efforts in many different forms will determine how well the ANZAC Research Institute succeeds in fulfilling its wonderful promise and potential.

Prof David Handelsman
Director, ANZAC Research Institute &
Professor of Reproductive Endocrinology and Andrology


ANZAC Research Institute

ANZAC Research Institute



The Hypothalamic pituitary gonadal axis - The Basis of Andrology Research

ANZAC Research Institute Research Reports

ANDROLOGY

Director
Professor David Handelsman

Andrology Research Laboratory
Senior Research Scientists
Dr Charles Allan
Dr Jaskrit Singh

Research Scientists
Jenny Spaliviero
Mark Jimenez

Research Assistants
Adam Koch
Fiona Thorne

PhD Students
Gloria Foxley
Miriam Haywood
Dr Soji Swaraj
Nina Tymchenko

Honours Student
Alvaro Garcia

Andrology Department Concord Hospital
Clinical Research Associate
Dr Ann Conway

Visiting Academic
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Research Nurses
Sharyn Kelleher
Leo Turner
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PhD students
Sharyn Kelleher
Dr Peter Liu
Lam Phoung Ly
Tian Zhuang

MSc Student
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Paula Anderson

Honorary Associate
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Irene Di Pierro
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Administrative staff
Lydia Andreas
Diane Quinn

Prof David J Dandelsman
Director of Andrology Research Andrology

Charles Allan
Senior Research Scientist Andrology

Andrology is the study of male reproductive health, medicine and biology. It covers several key dimensions notably fertility, sexuality and the effects of androgens, male hormones and testosterone, on health and disease. Relevant areas include testicular disorders, male infertility, male contraception, androgen deficiency, hormonal influences on prostate and cardiovascular diseases, and male ageing. The Andrology group conducts a range of integrated clinical and basic research studies with a focus on male reproductive health across all ages. Comprising of the Andrology Laboratory at the ANZAC Research Institute and Department of Andrology at Concord Hospital, it features an integrated bench-to-bedside approach intended to facilitate successful translational research.

Our research focuses on improvement in four broad aspects of men's health

- Androgen therapy to improve health and well-being
- Causes, prevention and treatment of prostate disease
- Understanding testicular function, notably hormonal control of sperm production
- Development of hormonal male contraception

Improved Androgen Therapy

Androgen deficiency is the most frequent hormone deficiency state in men. Careful life long testosterone therapy is highly effective in restoring good health and wellbeing. Although testosterone has been available for decades, standard treatments for androgen deficiency all have major shortcomings so that treatment is not always taken regularly. Improved, more convenient and user-friendly delivery systems will obtain better adherence to long-term treatment to provide optimal outcomes. Androgens have increasingly wide potential for clinical application in treatment of hormone deficiency states including chronic medical illness, in male ageing and for hormonal male contraception.

Optimising Androgen Replacement Therapy

S Kelleher, S Wishart, L Turner, A Conway, DJ Handelsman

Traditionally testosterone therapy has involved biweekly intramuscular injections that are inconvenient and unpopular with patients who experience pain as well as wide fluctuations in blood testosterone levels and mood. The few other alternatives all have drawbacks.

During the last decade we have established the modern clinical pharmacology of matchstick sized subdermal testosterone implants that are much more convenient, user-friendly and dissolve gradually over 6 months. This highly effective treatment is preferred among younger patients who are able to enjoy the maximum freedom from regular medical visits.

Currently we are aiming to eliminate the problem of extrusion as a side effect, which is experienced after 10% of implant procedures. To understand this problem, a series of systematic clinical research studies have been undertaken. Predictive risk factors have been identified and research studies have been completed aiming to reduce the extrusion rate. This expanded knowledge of depot testosterone pharmacology will assist in the development of newer, long-acting injectable testosterone esters, synthetic androgen implants, and many other drugs.

We are also undertaking the first trial of a new transdermal testosterone cream made by an Australian pharmaceutical company. At present, there is no transdermal testosterone cream or gel available in Australia. The availability of this cream will enhance the options in androgen replacement therapy for Australian men.

Therapeutic Role of Androgen Supplementation for Older Men

PY Liu, LP Ly, S Wishart, A Conway, DJ Handelsman

Androgen supplementation to promote healthy ageing for older men is topical and controversial. Many aspects of male ageing resemble those of androgen deficiency. Younger men receiving androgen replacement therapy obtain substantial benefit in muscle, bone, mental and physical functioning, and overall quality of life. If this observation were to be applied to older men, then frailty, falls and fractures may be prevented and quality of life enhanced. The Andrology group is among the international leaders in assessing the actual benefits and risks through placebo-controlled, randomised clinical trials.

Lam P Ly, in his PhD, examined the use of dihydrotestosterone (DHT), the more active form of testosterone, for androgen supplementation in older men. DHT was chosen because it requires lower daily doses, it androgenic effects are not amplified in the prostate so it may be more prostate-friendly. Daily application of DHT gel for 3 months increased muscle mass and decreased fat but has little benefit for muscular strength and did not improve overall mental or physical activity. Prostate growth however was reduced and this has lead to further studies to evaluate this effect. This study, the world's first of DHT in older men, received recognition through publication in the Journal of Clinical Endocrinology and Metabolism and was featured as study of the month for November 2001 on the US Endocrine Society website.

Peter Liu's PhD study examined the effects of a genetically engineered human protein, human chorionic gonadotrophin or hCG, as a new way to deliver androgen supplementation in older men. His results showed that, although muscle was increased and fat decreased, muscular strength was only slightly improved, and that spontaneous physical and mental activity and quality of life were not substantially improved. He also found androgen supplementation was of little benefit in insulin sensitivity. This definitive study has made an important contribution to the growing consensus that androgen supplementation needs to be better targeted by further studies if it is to have any significant therapeutic role in older men.

Peter also conducted the first study of the effects of high dose testosterone therapy on sleep and related mental functioning in healthy older men. This study aimed to establish the safety margin for testosterone therapy. He found that high dose testosterone treatment did disrupt sleep. This study provided one of the first critical tests of the safety of testosterone therapy in older men and provided grounds for caution about the increase in prescribing of testosterone for older men as well as androgen abuse in younger men.

Peter has been invited in two consecutive years to present at the highly prestigious US Endocrine Society's Annual Clinical Trials Symposium. His excellent PhD studies have been rewarded with much acclaim and he has been awarded a NHMRC Neil Hamilton Fairley Fellowship for 4 years further postdoctoral study in the USA and Australia.

Therapeutic Role of Androgen Supplementation in Chronic Disease

PY Liu, A Conway, DJ Handelsman

Any severe medical disease lowers testosterone production. When this is prolonged by chronic disease, the androgen deficiency may itself become a factor worsening the impact of the chronic disease on the body and in turn aggravate the impact of, and slow recovery from, disease. We have examined the potential of adjuvant androgen therapy in chronic medical disease in a variety of clinical settings. One randomised placebo-controlled clinical trial, performed in collaboration with Dr Crawford from Department of Endocrinology, RPAH, showed that in men requiring long-term prednisone treatment for immunological diseases, the deficit in muscle and bone can be improved by treatment with testosterone. Further studies into adjuvant androgen therapy are planned or underway using testosterone for depression in collaboration with a PhD student Bilyana Brdroska and Professor G Johnson at Northside Clinic, and nandrolone for opiate-induced androgen deficiency in collaboration with A Woodhouse and Professor M Cousins from the Pain Management Clinic, Royal North Shore Hospital.

The Role of Androgens in Cardiovascular Disease

A Death (Dept of Endocrinology, RPAH), D Celermajer (Department of Cardiology, RPAH), DJ Handelsman

Men have earlier and more severe cardiovascular disease than women yet the reasons for this striking gender disparity remain unclear. Because it has been believed that estrogen protected women before menopause, estrogen treatment of menopausal women has been widely used to protect against cardiovascular disease. However the first careful clinical trials have shown this prediction is not correct. Consequently, attention has returned to the role of androgens in susceptibility to early stages of atherogenesis. In collaborative clinical studies with Prof Celermajer's group into the role of androgens in vascular endothelial function, testosterone consistently impairs endothelial reactivity, whilst also causing arterial dilatation. In experimental laboratory research, Dr Alison Death has identified a novel androgen-sensitive step in the earliest stage of development of atheroma, involving the key cell adhesion molecule VCAM-1. This may provide clues to the headstart that men experience in development of atherosclerotic vascular disease. Further studies involving genetic mouse models are underway to identify the early life events that may predispose men to cardiovascular disease.

Prevention and Treatment for Prostate Disease

The Origins and Evolution of Prostate Disease

The prostate has a distinctive growth pattern, being formed before birth but reaching full development only during puberty. From midlife, it undergoes a unique further growth phase that continues throughout remaining life. The post-maturity enlargement of the prostate can interfere with bladder function causing difficulties with urination. These problems are very common and burden the lives of not only the men, but those of their families and carers thus making it a significant public health issue.

Little is known about the causes and the evolution of prostate disease making effective prevention impossible. We are conducting clinical and experimental research aimed to learn more about the sequence of events leading to prostate disease in mid and later life. This fundamental approach aims to identify new ways to prevent, halt, or even reverse, the progression of prostate disease before it surfaces as clinical symptoms.

Prostate cancer is the second most common cause of cancer deaths in Australian men. Prostate cancer cells grow so slowly that most men die from other causes before symptoms present. Men who will die from advanced prostate cancer have malignant cells that spread through the pelvis to the rest of the body especially bones. But what determines which will be fatal, or which will stay contained, is a key question for research. Learning how to make this distinction is essential for practical prevention and treatment of prostate cancer.

Benign prostatic hyperplasia, the other major prostate disease, is even more common. Every man who lives to full life expectancy can expect to develop prostate disease with 50% having troublesome symptoms and 25% needing surgery. As more men live to advanced age, the community burden of costs and suffering from prostate disease will grow increasingly. Prostate disease has strong hormonal background, long latency and identifiable precursor stages, which are hallmarks of preventable medical disorders. These striking features mean that it is eminently preventable and treatable if we knew more about its biology.

Epidemiology Of Prostate Growth in Middle Aged Australian Men

T Zhuang, DJ Handelsman

Tian Zhuang's clinical research studies for her PhD aim to identify predictive factors influencing mid-life prostate growth. In the first study of this complexity, she measured prostate size and growth by prostate ultrasound across a wide range of ages before prostate diseases become a medical problem. She then coupled this information with detailed information on environmental and lifestyle factors in order to re-evaluate the many factors thought to influence late-life prostate growth. A closely related study examined twins to highlight the genetic and environmental factors and their interaction in determining mid-life prostate growth. Based on the large NHMRC Australian Twin Registry, identical and non-identical twins were studied to examine their prostate growth and its determinants. The work in both studies continues to be analysed but its novel and objective approach is expected to lead to important clues for new ways to retard or reverse prostate growth and the risk of prostate cancer.

Influence Of Prenatal Factors On Male Reproductive Health

S Wishart, B Jin, DJ Handelsman

The Barker hypothesis on the prenatal origins of late-life degenerative diseases, notably cardiovascular disease, has revolutionised the epidemiological understanding of long range disease causation. This approach has highlighted the importance of nutritional and hormonal effects on the growing fetus that permanently mark disease susceptibility of the growing child and future adult. We are currently undertaking the first detailed investigation of the influence of prenatal factors on the development of the testis and prostate gland. We believe the development of pathology in the male reproductive system may be influenced by environmental factors that modify the natural perinatal surge in gonadotrophins and testosterone seen in male mammals. Experimental studies in the non-human primate suggested it was an important determinant of ultimate testicular development but its long range effects on prostate development and disease remain to be established. Using ultrasound methodology we aim to determine if testis development and prostate zonal structure in midlife prior to onset of overt prostate diseases are influenced by prenatal hormonal influences. We are recruiting a birth cohort of younger men to determine whether prenatal or early life influences prostate zonal volumes and the reproductive hormones. A significant finding would indicate that prenatal influences are important and would change the understanding and revolutionise approaches to prevention of prostate disease.

Prevention of prostate growth in men

S Kelleher, M Jimenez, A Tourians (Free University, Amsterdam), L Gooren (Free University, Amsterdam), DJ Handelsman

The contribution of the prostate to circulating DHT concentrations has been studied in collaboration with the Department of Andrology/Endocrinology at the Free University Medical Centre, Amsterdam. DHT is converted from testosterone by the enzyme 5α–reductase. The prostate has high expression of type 2 5α–reductase which converts virtually all testosterone entering the prostate to DHT. The highly selective expression of type 2 5α–reductase in the prostate allows the development of specific type 2 5α–reductase inhibitors such as finasteride. Previous indirect studies had suggested that the type 2 5α–reductase contributes 50-80% of circulating DHT. In order to study this directly for the first time, we are examining the quantitative contribution of the prostate to circulating DHT by comparisons of the effects of a fixed dose of testosterone on circulating DHT levels in humans with and without a prostate.

Mechanism of neonatal hormonal imprinting in the prostate

J Singh, DJ Handelsman

Androgen exposure in early life is a risk factor for prostate cancer but little is known of how such early life exposure can dictate disease decades later. We showed that experimental exposure to androgens and estrogens in the neonatal period permanently alters the structure and hormonal sensitivity of the mature prostate. If this hypothesis is correct for humans, then exposure early in life may dictate susceptibility to prostate diseases later in life. This creates the opportunity to halt progression of diseases due to the very long periods over which such a mechanism operates. We established that estrogen exposure in the newborn period changed the structure and proportions of cells within the prostate. We also have shown that testosterone arising from the testes soon after birth permanently modifies the structure and hormonal sensitivity of the mature prostate. This mechanism, called neonatal hormonal imprinting, is being studied to understand the biological mechanisms and to discover means for prevention of prostate disease. These experiments have created and validated a novel in-vivo animal model to study the neonatal hormonal imprinting effects on the prostate.

Characterisation of androgen-independent genes in the prostate

J Singh, Q Dong (Dept of Endocrinology, RPAH), DJ Handelsman

The terminal stage of prostate cancer is due to runaway growth of prostate cancer cells, which have by then escaped from their usual hormonal dependence to become hormone independent. In the earlier stages of prostate cancer, the malignant cells remain androgen sensitive and can be restrained by hormonal means to give temporarily relief. This project aims to identify genes active in the prostate that are involved in the transition of prostate cancers to the androgen-independent state. To identify these androgen independent genes we have established a new experimental approach that compares the genes active in the prostate of mice under differing hormonal conditions designed to replicate the hormonal environment of the prostate cancer cells before and after the development of androgen independence. Several novel genes have now been identified and their role in the evolution of prostate cancer is now under further study.

Understanding Testicular Function: The Hormonal Regulation of Spermatogenesis

Transgenic Approaches to the Hormonal Regulation of Spermatogenesis

C Allan, J Spaliviero, DJ Handelsman

Sperm production depends completely on the pituitary gland through its secretion of two gonadotrophin hormones, LH and FSH. LH has a unique action on Leydig cells where the specific LH receptor is located and stimulates the production of testosterone. Testosterone accumulates at high concentrations in the testis where it is essential in stimulating sperm production. FSH has specific receptors on Sertoli cells, the nurse cells that support, coordinate and nourish the sperm production in the seminiferous tubules of the testis.

Recently we have successfully established two novel transgenic models that selectively express the necessary genes for the FSH pathway. We used a strain of hypogonadal mice lacking both FSH and LH secretion as a null background upon which we could rescue testicular function. Using transgenes we selectively restored FSH function by either autonomous FSH secretion or a mutant FSH receptor that remains active even in the absence of FSH. This research showed that the primary effect of FSH was in stimulation of Sertoli cell maturation and proliferation. Secondary effects were also identified at later stages of spermatogenesis and the formation of normal fertile sperm especially when combined with testosterone.

Using the transgenic FSH receptor models we verified the biological activity of an activated mutant FSH receptor in the absence of circulating FSH. This resolved a long-standing controversy about the validity of the activating mutation, the first described in humans but which was difficult to verify in the laboratory. Further research of this model has contributed to the first thesis completed at the ANZAC Research Institute, earning Alvaro Garcia his BSc Honours.

Our new transgenic facility, headed by Dr Charles Allan, has successfully generated its first transgenic models, which will be used to further investigate the role of testosterone and other specific factors in sperm production, all of which have important implications for male infertility, contraception and testicular tumours.

Development of a Depot Hormonal Male Contraceptive

L Turner, PY Liu, AJ Conway, DJ Handelsman

Improved knowledge of the hormonal regulation of spermatogenesis has practical application for development of hormonal methods of male contraception. Following landmark WHO studies, in which Department of Andrology was the largest centre, the requirements for a reliable and reversible hormonal male contraceptive have been defined.

Based on these WHO findings, further research has made progress in developing a practical hormonal male contraceptive regimen. The use of a depot form of testosterone has been refined to obtain the lowest effective doses in the most effective combination to suppress sperm output and minimise undesirable side effects. Detailed clinical studies have shown the optimal combination involves two hormones, a progestin, an analogue of progesterone, and testosterone.

A multi centre Australian trial located at Concord Hospital has been completed. Funded by CONRAD, an US public sector agency, 55 Australian couples participated in the first study to prove that a depot combination hormonal approach provided highly reliable and reversible male contraception. These major findings have been reported at international scientific meetings and will be published in due course.

BIOGERONTOLOGY

Director
Professor David Le Couteur

Senior Research Scientists
Dr Jillian Kril
Dr Michael Muller

PhD Students
Victoria Cogger
Dr Sarah Hilmer
Allesandra Warren

Honorary Research Associates
Emeritus Professor Robin Fraser
Professor Alan McLean

Prof David Le Couteur
Director of Biogerontology Research

Michael Muller
Senior Research Scientist Biogerontology

The Biogerontology Laboratory investigates ageing and age-related diseases. The two principal areas of interest are the ageing liver and neuropathology.

The Ageing Liver

V Cogger, S Hilmer, A Warren, M Muller, DG Le Couteur

The Biogerontology Laboratory has made major contribution to the understanding of how the liver ages with the discovery of the process of pseudocapillarisation. This process involves structural changes to the endothelium, a single layer of cells that line the blood vessels or sinusoids of the liver. The sinusoidal endothelium possesses fenestrae, or holes, arranged in plates that act as molecular sieves. These fenestrae control the flow of chylomicron remnants, and hence the flow of lipid, and other substances into the liver by changes in their number and diameter. The group has demonstrated that with advancing age there is a loss in the number of endothelial fenestrae with accompanied thickening of the sinusoidal endothelium and basal membrane development.

We have proposed that the process of pseudocapillarisation may be a contributing factor in several age-related diseases, including atherosclerosis, neurodegenerative disorders and adverse drug reactions. As the number of fenestrae decrease with age the residence time for lipids and toxins, including drugs, in the systemic circulation increases as the liver has a reduced capacity to take them up. This leads to a greater exposure of the blood vessels and other tissues to the deleterious effects of these substances. Recently, the Biogerontology group published in the Lancet a hypothesis describing how the process may contribute to blood vessel plaque formation. Studies are currently underway to provide further support for this novel hypothesis. For the elderly on medications the process of pseudocapillarisation can mean that they become over medicated as they have a reduced capacity to remove drugs from the circulation.

The Biogerontology Laboratory has been active in establishing collaborative links with other institutes with interests in research on ageing. Close ties have been established with the National Ageing Research Institute located in Melbourne. During the recent visit to the ANZAC Research Institute by Professor Darrell Abernethy, Director of the National Institute on Aging in the United States, an agreement for the exchange of graduate students was reached.

During the past year, Victoria Cogger, a final year PhD student, has extended her observations on the ultrastructural changes of the hepatic sinusoidal endothelium in rats and humans to include baboons. Victoria has found consistent age-related changes across the three species indicating that the process of pseudocapillarisation may be a universal ageing process in mammalian livers.

In conjunction with her work on ageing animal and human livers, Victoria established an experimental model of liver-targeted oxidative stress. In the past it has been demonstrated that oxidative damage is involved in the ageing process. Studies are currently underway to observe the effect oxidative stress has on the liver sieve and the role this damage has in the pathogenesis of pseudocapillarisation.

Victoria also presented her findings at two international liver meetings and was awarded the prize for the best postgraduate student presentation at the Hepatic and Splanchnic Circulation in Health and Disease Conference held in Dunedin in August 2001.

Alessandra Warren has just completed the first year of her PhD. Alessandra has been further characterising the age-related changes of the baboon liver using immunohistochemistry. These techniques allow for the determination of age-related changes in protein expression, providing insight into the underlying mechanisms of pseudocapillarisation. She is also working on a mouse hepatitis model. These experiments focus on communication between the sinusoidal cells and the hepatocytes and the events these cell interactions trigger.

Dr Michael Muller commenced as senior scientist with the Biogerontology Laboratory in July 2001. Bringing to the laboratory a background in vascular endothelial cell research and oxidative stress, Dr Muller has developed a simplified technique for isolating sinusoidal endothelial cells from the liver and has now established these cells in routine

culture. As oxidative stress has been implicated as a cause of pseudocapillarisation these cells are currently being evaluated for their ability to produce endogenous oxidants in response to various stimuli, for example, endotoxin, alcohol and various hormones. Studies have commenced to examine the relationship between endogenous oxidant production and the number of fenestrae expressed by endothelial cells. Other studies currently underway involve examining the effects of pro-inflammatory mediators, for example the cytokines TNFa and interleukin-6, on fenestrae numbers. The ready availability of these cells in large numbers will make it possible to rapidly screen potential pharmacological agents that may be used to modulate the liver sieve for clinical applications.

Dr Sarah Hilmer commenced her PhD studies in 2002 and is investigating the relationship between ageing of the liver and age-related changes in lipid metabolism. Such changes may explain the age related increase in atherosclerosis. Sarah has developed a multiple indicator dilution technique in the perfused rat liver to demonstrate the hepatic disposition of small and large chylomicrons and fluorescent microspheres of various diameters. She will use this method on young, middle aged and old rats to investigate variations in hepatic lipid disposition that occur with age.

NEUROPATHOLOGY

Neuropathology

JJ Kril

Dr Kril and colleagues continue their work on the neuropathology of dementia. In particular they are investigating two of the lesser studied forms of dementia, namely frontotemporal dementia (FTD) and vascular dementia due to small vessel disease (SVD).

They have developed a staging scheme to assess the severity of atrophy in FTD and shown that this relates to the severity of clinical disease. Furthermore, they have quantified the pattern and extent of brain atrophy in FTD and shown that certain brain regions, including part of the frontal lobe is spared in FTD. In addition, they have shown that posterior brain regions are not spared in this disease.

In SVD, Dr Kril and colleagues have found that the degree of hippocampal neuron loss is equivalent to that of Alzheimer's disease. This important finding has implications for the clinical diagnosis of both SVD and AD as it suggests similar patterns of cognitive deficits would be found in both groups.

BONE BIOLOGY

Director
Professor Markus Seibel

Senior Research Scientist
Dr Colin Dunstan

Research Fellow
Dr Christian Meier

Laboratory Manager
Karen Brennan

Prof Markus Seibel
Director of Bone Biology Research

Colin Dunstan
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The Bone Biology Research Laboratory was opened in mid 2002 and the following programs are currently being undertaken:

Preventing The Spread Of Malignant Tumours To Bone

C Dunstan, MJ Seibel

Dr Dunstan, a highly successful bone researcher with worldwide recognition, was recently awarded the prestigious BioFirst Award, inaugurated by Premier Bob Carr to bring top Australian scientists back to NSW. The funds associated with the BioFirst Award will support Dr Dunstan in his cutting edge work on the mechanisms that govern the spread of malignant tumours, such as breast and prostate cancer, to bone. This work will include studies of a novel animal model of metastatic bone disease recently developed by Professor Seibel's team. Understanding the mechanisms of malignant spread to bone will help to develop more efficient strategies for the prevention and treatment of these painful and often fatal complications of most cancers.

Genetic Influences

C Meier, MJ Seibel

Led by Dr Christian Meier from the University of Basel, Switzerland, the team will work on the genetic factors that influence bone mass and bone turnover in healthy and osteoporotic men. This project, funded by the Swiss National Research Fund, will be carried out in collaboration with Prof. John Eisman of the Garvan Institute and his group conducting the Dubbo Epidemiological Study. The project is expected to shed light on the presently poorly understood mechanisms causing osteoporosis in men, and is expected to provide opportunities for new and better prevention and treatment.

Bone Metabolism

K Brennan, MJ Seibel

Led by Professor Seibel, research is underway into the mechanism governing normal and abnormal bone metabolism. In particular the team is working on the effect of cortisone on bone. A frequent adverse effect of this widely used and sometimes life-saving drug can be severe bone disease. New techniques have been developed and implemented at the ANZAC Research Institute that will help show why cortisone is so damaging to bone. In the long term, these studies hope to point the way to strategies for the reversal or even prevention the detrimental effects of cortisone on the skeleton.

Bone Markers

K Brennan, MJ Seibel

All bone diseases are characterised by changes in bone formation and in bone resorption, the two major processes that keep bone alive, healthy and strong. Measurement of specific 'bone markers' in serum and urine determines the activity of these processes and the results of these simple tests can help the clinician assess the severity, and monitor the treatment of bone diseases such as osteoporosis. Although these bone markers have been developed only recently and are still being refined, they are already widely used amongst doctors worldwide. Led by Professor Seibel, a major line of the laboratory's research is the development and clinical validation of novel or improved markers of bone turnover. Present studies focus on the evaluation of bone turnover rates in the very elderly, the significance of androgens on bone health, the effect of anti-osteoporotic drugs on bone remodeling and fracture rates in patients with osteoporosis, and the novel use of bisphosphonates on the healing of prostheses used for total hip replacements.

NEUROBIOLOGY

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Dr Marina Kennerson

Research Scientists
Dr Irina Dedova
Dr Danqing Zhu

Project Officer
Stella Christodoulou

PhD students
Dr Arun Aggarwal
Drs Cindy Kok

Medical Student
Nick Blair

Prof Garth Nicholson
Director of Neurobiology Research

Marina Kennerson
Senior Research Scientist Neurobiology

The Neurobiology research group has mapped the genes for three new hereditary neuropathies in the last few years.

A new form of dominant hereditary neuropathy has had its defective gene mapped to chromosome 19. Some unique additional features of this syndrome have been defined including blood and eye disorders. Our collaborators in Antwerp have confirmed this finding in a European family.

During the year Dr Cindy Kok, a PhD student from the Netherlands, has mapped the gene location for another unusual nerve disease, a dominantly inherited neuropathy with associated gastric reflux and cough. The defective gene causing the disease has been mapped to a chromosome location and the identification of the gene is underway. This work, done in collaboration with Professor John Pollard at Royal Prince Alfred Hospital, is being prepared for publication.

Our second PhD student, Dr Arun Aggarwal, achieved a world first when he published the evidence in which he had tracked over time the onset of motor neurone disease in patients at risk of familial motor neurone disease. In this work he showed that motor neurone disease has a sudden onset possibly with a triggering environmental mechanism. This trigger is a target for future prevention and treatment of this debilitating condition.

This year was particularly exciting when two normal children were born in Australia and UK to parents with hereditary sensory neuropathy. This world's first was the result of applying earlier research from our group that identified the defective gene and allowed for accurate prenatal genetic testing. The resulting genetic testing ensured the birth of healthy children.

Students

MSc medical student, Nick Blair, established a new molecular test for an early onset Parkinsonian disorder. This assay to detect two hereditary neuropathies, Charcot-Marie-Tooth Type 1a (CMT1A) and hereditary neuropathy with liability to pressure palsy (HNPP), has been developed in the Molecular Medicine Laboratory by Peter Lorentzos, using DNA gene dosage techniques.

Clinical Research Collaborations

A clinical study, in collaboration with Dr Cathy Refshauge at the School of Physiotherapy, University of Sydney, showed nocturnal foot splinting to be inadequate to control the development of pes cavus. The pes cavus prevention program developed by our group has now been taken up by the Children's Hospital at Westmead. The study is now continuing, in association with Dr Grace Warren, a Sydney authority in surgery for peripheral nerve disorders, to determine whether soft tissue surgery can be used to prevent the progression of pes cavus.

In collaboration with Professor John Pollard and Dr Penny Spring at Royal Prince Alfred Hospital, the pathology of hereditary sensory neuropathies with defined gene mutations is being studied.

Localising the Gene for Dominant Intermediate Charcot-Marie-Tooth (DI-CMT) Neuropathy.

ML Kennerson, D Zhu, GA Nicholson

Charcot-Marie-Tooth (CMT) neuropathy is one of the most common groups of human hereditary disorders. The CMT syndrome is a disorder of peripheral nerve affecting both motor and sensory neurones. Clinically CMT exhibits weakness and atrophy of distal muscles, depressed or absent deep tendon reflexes, and mild sensory loss. Two major types have been defined according to whether they are primarily disorders of Schwann cells with nerve conduction slowing (CMT I) or disorders of distal portions of neurones, 'axonal neuropathies' (CMT II). Peripheral nerve conduction slowing is seen in CMT type I is typically 20m/sec whereas for CMT II the median nerve conduction velocity is usually greater than 38 m/sec.

The term dominant intermediate Charcot-Marie-Tooth (DI-CMT) neuropathy has been coined to describe a family where different affected individuals have a range of intermediate median motor-nerve-conduction velocities between 24-54m/sec. We are presently working to identify the gene mutation causing DI-CMT. The gene locus at the 16.8cM interval on chromosome 19p12-p13.2 was determined in 2001. Since then several genes have been screened and eliminated as candidates for DI-CMT. Haplotype analysis using other family members has further refined the interval to be investigated. We are able to select genes with specific neural expression through close collaboration with Dr Roman Chrast of Salk Institute, California. Our work is proceeding to further define the gene mutation.

Molecular Mechanisms of Hereditary Sensory Neuropathy Type 1

VN Dedov, IV Dedova, ML Kennerson, GA Nicholson

Hereditary sensory neuropathy type 1 (HSN1) is a disease of peripheral nerve and is the most common cause of loss of pain sensation in hands and feet. Affected individuals suffer shooting pains and painless injuries that lead to chronic ulceration, osteomyelitis and limb amputation. Since identifying mutations in serine palmitoyltransferase subunit 1, the first enzyme of sphingolipid synthesis, as the underlying cause of HSN1 research has continued to understand the pathogenesis of these mutations. Preliminary evidence suggests that accumulation of mutated protein might be involved in HSN1 sensory neurons. Presently we are pursuing a project to construct a model system for HSN1.

Localising the Gene for Hereditary Sensory Neuropathy with cough and gastroesophageal reflux.

ML Kennerson, C Kok, GA Nicholson

Hereditary sensory neuropathy type I (HSN) is a group of dominantly inherited degenerative disorders of peripheral nerve. It is a significant cause of long-term disability. We are investigating the chromosomal location of a recently recognised form of HSN type 1, with gastroesophageal reflux (GOR) and cough. Twenty-six members of a large Australian family with this condition have been recruited to map the location on the gene.

In 2002, a donation was made by the family to commence a genome wide screen. The genome screen was performed at the Australian Genome Research Facility (AGRF). Evidence for linkage to a chromosomal location was found. Since this study began we have identified another family with similar clinical symptoms who have been mapped to the same location. Other evidence shows the gene mutation underlying the disease in each family arose independently. Currently the results are prepared for publication and 3 strong known candidate genes are being screened for pathogenic role in HSN with cough and GOR.

Prof Garth Nicholson introduces Jemma and her mother to the laboratory which helped give her life.

RESPIRATORY LABORATORY

Director
Dr Sam Lim

Project Officer
Dr Louise Plowman

PhD Students
Dr Melissa Baraket
Brian Oliver
Dr Linda Seeto

Visiting Research Associate
Dr Bettina Rost

It has been an exciting year in the cell and vascular biology laboratory with the start of two new PhD students, Dr. Melissa Baraket and Brian Oliver. Melissa, a former respiratory registrar at Concord Hospital, has begun work in earnest recruiting patients for her bronchoscopic studies into the dose dependent molecular mechanisms of inhaled steroids in the treatment of asthma. Her study will look at the effects of either high or low dose steroids upon macrophage function to assess the activation and inhibition of a group of small protein messengers collectively known as cytokines. Better understanding of these mechanisms will lead to more effective treatment of patients with asthma.

Brian who has joined us from England is going to be examining the role played by rhinovirus, the common cold virus, in asthma and chronic obstructive pulmonary disease (COPD). Rhinovirus can cause both asthma and COPD to exacerbate, by a mechanism that is poorly understood. Brian in his research will look at the effect of rhinovirus infection of macrophages. Preliminary data suggests that infection results in release of pro-inflammatory cytokines, and that infection of macrophages results in a decreased ability of the macrophage to be further stimulated.

Dr Linda Seeto continues her PhD into the mechanisms regulating inflammation in COPD. The aim of her work is to find more effective therapies for COPD sufferers. Current therapies tend to alleviate symptoms but have little effect on the decline in lung function of these patients. Her preliminary findings which showed that combination therapy of long acting b2 agonist with corticosteroid may be beneficial was presented at two thoracic medicine conferences overseas and in Australia. She will continue her research at the National Heart and Lung Institute at the Brompton Hospital in London.

We were joined by a visiting academic from Germany, Dr Bettina Rost, who began work looking at the role played by neurotrophins in chronic idiopathic cough. Neurotrophins have been shown to be important in the pathology of asthma in previous studies but their role in chronic idiopathic cough is not known. Bettina has shown a difference in the level of neurotrophin in induced sputum from patients with chronic idiopathic cough when compared to induced sputum from normal health volunteers. This suggests neurological involvement in the development of chronic idiopathic cough.

Staff and Students of the ANZAC Research Institute 2001 - 02

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Prof Markus Seibel MD, PhD, FRACP

Clinical Research Associates
Dr Ann Conway MB BS, FRACP

Research Associates
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Dr Steve Vucic MB BS

Visiting Academics
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Dr Bettina Rost MD(Germany)

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Dr Vadim Dedov PhD, MD(Russia)
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Dianne Quinn JP
Toni Watson

Receptionists
Lorraine Flannery PhD
Terese Kutis

Growth at ANZAC Research Institute

Staff/students	2000	2001	2002
Director	1	1	1
Laboratory Heads	-	2	4
Post Doctoral Scientists	-	6	9
Graduate Students	4	9	17
Administration	1	2.5	3.2
Scientific & Technical	-	7	11.5
Total FTE*	6	27.5	45.7

*Full Time Equivalent

PUBLICATIONS

Refereed journal articles

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Bone Biology

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RESEARCH GRANTS AND FUNDING

PROJECT	TERM	GRANT	INCOME
			2001-2002
ANZAC Research Institute			
Equipment Grants			
NHMRC Confocal Microscope (Handelsman, Nicholson, Le Couteur, Kril, Lim, O'Neill, Illingworth)	2001	$40,000	$40,000
Ramaciotti Foundation - Confocal microscope (Handelsman, Nicholson, et al), 2002 $15,000	2002	$15,000	$15,000
University of Sydney Equipment Grants - Ugrade mass spectrophometry for HPLC (Handelsman, Allan, Illingworth, Kril, Nicholson)	2002	$50,000	$50,000
University of Sydney Major Equipment Grants - Mass spectrometry Upgrade for HPLC (Handelsman, Allan, Le Couteur, Illingworth, Kril, Nicholson)	2002	$78,000	$78,000
ANDROLOGY			
Projects			
Contraceptive Research and Development program (CONRAD)- Efficacy, Safety, and Service Feasibility of an Androgen/Progestin Depot Regimen for Hormonal Male Contraception (Handelsman, Conway) US$303,000	1998-2001	$541,750	$45,147
Merck Medical School Grant - Androgens and $30,000 Atherosclerosis: The Potential Role of Male Sex Steroids in Vascular Disease (Death, Celermajer, Handelsman) US	2000-2001	$53,000	$13,250
Andrology Australia -Monitoring of androgen misuse and abuse (Handelsman)	2001-2002	$73,840	$36,920
NHMRC #211035 Mechanisms of pro-atherogenic effects of androgens in human vascular cells (Death, Celermajer, Handelsman)	2001-2003	$210,000	$70,000
NHMRC #153856 Prenatal factors in male reproductive health (Handelsman)	2001-2003	$275,000	$91,667
NHMRC #153855 The role of FSH in spermatogenesis (Handelsman, Allan, Illingworth)	2001-2003	$285,000	$95,000
Lilly Endocrine Research Grant - Comparative Effects of estrogen, raloxifene and dihydrotestosterone in genetically sex steroid deficient hypogonadal(hpg) mice (Handelsman, Hughes)	2002	$20,000	$10,000
Andrology Australia - Reference panel for reproductive hormones (Handelsman)	2002-2003	$27,250	$6,813

PROJECT	TERM	GRANT	INCOME
			2001-2002
University of Sydney Cancer Research Fund Cellular and Molecular mechanisms of the neonatal hormonal imprinting of the prostate (Handelsman)	2002-2003	$100,000	$25,000
NHMRC #211244 Studies of the paracine role of inhibinA/activin A in ovulation (Illingworth,Handelsman)	2002-2004	$225,000	$375,000
Equipment Grants			
Ramaciotti Foundation - Equipment for microinjection (Allan, Handelsman)	2001	$12,000	$12,000
Rebecca L Cooper Foundation - Equipment for microinjection (Handelsman, Allan)	2001	$15,500	$15,500
Scholarships			
NHMRC Medical & Dental PhD Scholarship - Metabolic Effects of Androgens in Ageing Men (Liu)	1999-2001	$75,000	$12,500
Industry Contracts			
Pharmacia and Upjohn - Efficacy, Safety and Service Feasibility of an Androgen/Progestin Depot Regimen for Hormonal Male Contraception (Handelsman, Conway)	1998-2001	$5,000	$625
Organon - Efficacy, Safety and Service Feasibility of an Androgen/Progestin Depot Regimen for Hormonal Male Contraception (Handelsman, Conway)	1998-2001	$30,000	$3,750
Lawley Pharmaceuticals - Pharmokinetics of Andromen Forte cream ; a dose finding clinical trial(Handelsman)	2001-2002	$35,062	$35,062
Lawley Pharmaceuticals - Longterm pharmokinetic and clinical efficacy of Andromen Forte 5% cream in androgen replacement therapy in hypogonadal men(Handelsman)	2002-2003	$102,413	$25,603

PROJECT	TERM	GRANT	INCOME 2001-2002
BIOGERONTOLOGY			
Projects			
NHMRC # 990937 Hepatic Oxygenation and Ageing (Le Couteur, McLean, Ansselin)	1999-2001	$165,000	$27,500
University of Sydney SESQUI - Pathogenesis and Functional Significance of Age-related Pseudocapillarisation (Le Couteur)	2001	$42,500	$42,500
NHMRC/DVA #211085 Pharmacological and therapeutic implications of the oxygen diffusion barrier hypothesis (McLean, Le Couteur)	2002-2005	$240,000	$40,000
Equipment grants			
University of Sydney Equipment Grant - Purchase of HPLC (Le Couteur)	2001	$18,000	$18,000
Fellowships			
NHMRC C J Martin Fellowship (Harris)	2001-2005	$318,000	$90,000
Scholarships			
Australian Association of Gerontology RM Gibson Award (Hilmer)	2001-2002	$5,000	$2,500
University of Sydney Medical Foundation Scholarship (Cooger)	2001-2002	$37,000	$18,500
RACP McCaughey Research Entry Scholarship (Hilmer)	2002	$10,000	$5,000
NHMRC Dora Lush Postgraduate Scholarship (Warren)	2002-2004	$65,559	$10,927
NHMRC Postgraduate Medical Scholarship (Hilmer)	2002-2004	$85,296	$14,216
Other			
Department of Health and Aged Care Tender - Falls in residential care (Le Couteur, Shanley)	2001	$155,000	$77,500
NHMRC Scoping Study on Ageing Research (Le Couteur, Khalil)	2001	$82,000	$41,000

PROJECT	TERM	GRANT	INCOME 2001-2002
BONE BIOLOGY			
Projects			
National Institute of Health - PTH and Alendronate in Combination in the treatment of Osteoporosis (Black,Bilezikian, Rosen, Seibel)	1999-2003	$35,000	$7,000
University of Heidelberg Research Council - Chronobiology of bone metabolism (Woitge, Seibel)	2000-2002	$70,000	$23,333
European Union Science Program - Bone Sialoprotein - role in breast cancer (Seibel, Robins, Woitge, Fohr)	2000-2002	$160,000	$53,333
International Osteoporosis Foundation - Longitudinal changes in risk factors for osteoporosis due to genetic and life style influences (Seibel, Livshits)	2002-2003	$40,000	$10,000
World Anti-Doping Agency (Australian-Japanese Consortium) Defining interactions between anabolic and peptide hormones: requirements for a robust test for growth hormone doping (Ho, Kazlauskas, Handelsman, Irie) Total US $400,000 (Subproject only)	2002-2004	$223,410	$37,235
Swiss National Foundation and Roche Foundation - Candidate gene study between different hormone receptor gene polymorphisms and bone mineral density and turnover in adult men (Meier, Seibel, Handelsman, Eisman)	2002-2004	$310,000	$51,667

NEUROBIOLOGY

PROJECT	TERM	GRANT	INCOME 2001-2002
Projects			
Australian Brain Foundation - Gene mutation screening in Parkinson's disease (Nicholson, Kennerson)	2001	$10,000	$10,000
Ramaciotti Foundation for Brain Research - Functionalstudies on the Gene causing hereditary sensory neuropathy (Nicholson, Kennerson)	2001	$12,000	$12,000
Rebecca L Cooper Foundation - Finding the gene for hereditary sensory neuropathy: a new cause of sensory neurone degeneration (Nicholson, Kennerson)	2001	$16,000	$16,000
NHMRC #153895 Genetic Bases for Charcot-Marie-Tooth and hereditary sensory type 1 neuropathies (Nicholson, Kennerson)	2001-2003	$615,000	$205,000
Australian Brain Foundation - Gene mutation analysisin Parkinson's disease using real time PCR (Nicholson, Kennerson)	2002	$15,000	$15,000
Motor Neurone Disease Institute of Australia - Electrophysiological estimation of motor neurones in SOD1 (Nicholson, Kennerson)	2002	$15,000	$7,500
Ramaciotti Foundation - Gene mutation analysis in Parkinson's disease (Nicholson)	2002	$15,000	$7,500
University of Sydney, Faculty of Medicine motor neurone disease (Kennerson, Nicholson), US$49,071	2002	$50,000	$25,000
USA ALS - Identifying new gene mutations for motor neurone disease (Kennerson, Nicholson), US$49,071	2002-2005	$87,250	$10,906
Other			
Private Funding - Paget's Disease Research (Nicholson)	2001-2002	$35,000	$35,000

RESPIRATORY MEDICINE

PROJECT	TERM	GRANT	INCOME 2001-2002
Projects			
Ramaciotti Foundation - The Effect of Theophylline on the expression of MMPs and Cytokines in COPD (Lim)	2001	$18,000	$9,000
Australian Lung Foundation: Grant in Aid - The Clinical Utility of using non-invasive markers of inflammation in the management of Asthma (Lim)	2001	$24,000	$12,000
NHMRC #211082 The role of the alveolar macrophage in the regulation of inflammation in COPD (Lim, Seeto)	2002-2004	$390,000	$65,000
Equipment grants			
Compumedics Australia - Development of a novel acoustic device for monitoring wheezing is asthma (Lim), 2001 $60,000	2001	$60,000	$60,000
Scholarships			
University of Sydney, Australian Postgraduate Award, PhD scholarship (Baraket)	2002-2004	$58,977	$9,830
Industry contracts			
Compumedics Australia - Development of a novel acoustic device for monitoring wheezing in asthma (Lim)	2001	$60,000,	$60,000
GlaxoWellcome - Interaction between 2 agonists and long acting bronchodilators in alveolar macrophages (Lim) £158,391pa	2001-2003	$475,173	$158,391
Bayer - A study of the causes of community acquired pneumonia in Concord Hospital	2002-2003	$30,000	$15,000

GOVERNANCE

Dignitaries and our supporters assembled for the Opening of ANZAC Research Institute , April 2002

Professor John Young AO FAA

Professor Young is Chairman of the Council and Executive Board of the ANZAC Health and Medical Research Foundation. He is the Pro Vice-Chancellor (Health Sciences) at the University of Sydney. He also serves as a Director of the Royal Alexandra Hospital for Children, Deputy Chair of the Central Sydney Area Health Service Board, and Vice President and Secretary (Biological) of the Australian Academy of Science, President, Federation of Asian and Oceanian Physiological Societies, and Member of the National Health and Medical Research Council and the Medical Board of NSW.

Mr Godfrey (Rusty) Priest AM

Mr Rusty Priest is Deputy Chairman of the ANZAC Health & Medical Research Foundation and its Executive Board. He is Immediate Past President of the Returned and Services League of Australia (NSW Branch), Having held office between 1993 and 2002. Rusty enlisted in the 2nd AIF in June 1945, serving in Japan with the British Commonwealth Occupation Forces from April 1946 to December 1948, the Australian Regular Army from 1946 to 1967 and the Emergency Reserve until 1975. Then he took a management position at the University of Sydney, retiring in 1990. He is extensively involved in all matters affecting the welfare of veterans and their dependants. He is the current Chairman, Board of Directors of the Kokota Track Memorial Walkway Ltd.

Mrs Felicity Barr

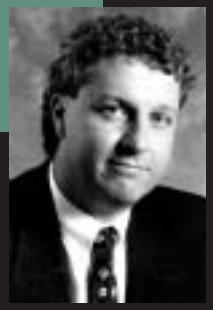
Mrs Barr was Honorary Treasurer of the Council and Executive Board until her resignation in February 2002. She is the Divisional Head of Corporate Development and was Deputy Commissioner in NSW for the Department of Veterans' Affairs. Her qualifications include languages, computing and gemmology. During her career in the Commonwealth Public Service, she has worked in the Departments of Transport, Aviation and Education before joining Veterans' Affairs. She has extensive management experience in health, housing and insurance, with particular interests in aged care and health promotion and is a member of the Australian Institute of Company Directors.

Ms Kerry Chikarovski MP

Ms Chikarovski graduated from the University of Sydney with degrees in Economics and Law, majoring in Industrial Relations. She was elected to the NSW Parliament in May 1991, as the Member for the seat of Lane Cove. Before entering politics, she worked as a solicitor in private practice, specialising in property and commercial law, and lectured at the College of Law. In 1994 she was elected Deputy Leader of the NSW Liberal Party. She held the positions of Shadow Minister for Corrective Services and Emergency Services, and the Environment and became Leader of the Opposition in the NSW in 1998 whilst also holding portfolio responsibilities of the Arts, Ethnic Affairs and Women. Currently she is the Shadow Minster for Public Private Partnerships, and Infrastructure and Major Projects.

Mr Gary J Collins

Mr Collins joined the public service in 1970 in the Repatriation Department, now the Department of Veterans' Affairs where he has spent his entire career. He has worked in all areas of the Department; Compensation, Health and Corporate Services and in most areas of Australia; Brisbane, Canberra, Adelaide, Perth and Sydney. Gary was Chief Executive Officer of Repatriation General Hospitals in Perth and Brisbane, has been Deputy Commissioner in Perth, Brisbane and now Sydney and worked briefly as Division Head Compensation in Canberra. Born in Lismore he grew up in Queensland and Malaysia as the son of a RAAF Air-Frame fitter who saw service in both Army and Navy during the Second World War.

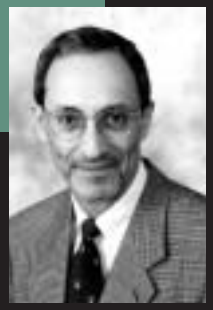


Mr Matthew Daly

Mr Daly serves as member of both Council and Executive Board. For the last twenty years he has been involved in management in health including teaching hospitals, district hospitals, private hospitals, and community health services. He is currently Executive Director of two University of Sydney teaching hospitals, Concord Repatriation General Hospital (550 beds) and Canterbury Hospital (150 beds). He holds tertiary qualifications in health administration and business and is a surveyor for the Australian Council of Healthcare Standards and State Branch Councillor with the Australian College of Health Service Executives in NSW.

Mr Alan Davidson AM MBE

Mr Davidson serves as member of both Council and Executive Board. He is President NSW Cricket Association and Chairman of the Fresh Food Australia Holdings Pty Ltd. Mr Davidson is a former Australian Test cricketer and is a member of NSW Sports Advisory Council. He is former Trustee of the Bradman Museum Trust and former Director of the Bradman Foundation.



Professor Michael Field

Professor Field was Professor of Medicine and Associate Dean (Curriculum) in the Faculty of Medicine and Chair of the Division of Medicine at Concord Repatriation General Hospital until his resignation to become Associate Dean of the University's Northern Clinical School. He has a research and clinical background in renal medicine, and is a past President of the Australian and New Zealand Society of Nephrology, and a current member of Council of the International Society of Nephrology. Prof Field was Chair of the Research Committee before his resignation.

The Hon Mr Tim Fischer

Born at Lockhart in southern NSW and educated at Boree Creek and Melbourne, Tim Fischer is a former Army Officer who served in both Australia and Vietnam. First elected to NSW Parliament in 1970 to represent the then Country Party, in 1984 he was elected to Federal Parliament as representative for the National Party for the seat of Farrer. He served on many Committees and held several Shadow portfolio positions in Opposition, and was elected Leader of the National Party after the 1990 election. Mr Fischer served as Deputy Prime Minister and Minister for Trade from 1996 - July 1999.

Mrs Janet Hackett

Mrs Hackett was State President of the War Widows' Guild of Australia NSW Ltd in 2001-2002. Through her experience and knowledge and of the needs of war widows and the ex-service community, she has represented the Guild on several committees in the ex-service community advocating the wellbeing of war widows. She was a Vice-President of the National War Widows' Guild of Australia whilst State President of the Guild in NSW. She is a Director of the Guild. Before election she was Secretary of the City of Blacktown War Widows' Guild Club and President's Representative in 2001-2002. She is also a member of the City of Blacktown RSL Women's Auxiliary. Mrs Hackett is a member of the Executive Board.

Professor David Handelsman

Professor Handelsman, inaugural Professor/Director of the ANZAC Research Institute appointed in 1998, graduated in 1974 in Medicine and specialised in Endocrinology. Whilst studying for his PhD he established the first Andrology centre in Australia. He has served as adviser to the WHO Human Reproduction Programme and Secretary of the International Society of Andrology. After receiving the Susman Prize from the Royal Australasian College of Physicians in 1994, he took up a visiting Professorship at University of Munster, Germany. On his return in 1996 he was promoted to a Personal Chair at the University of Sydney as the first Professor of Andrology in Australia. Professor Handelsman is an ex officio member of the Council, Executive Board and Research Committee.

Mr Geoffrey Hartigan

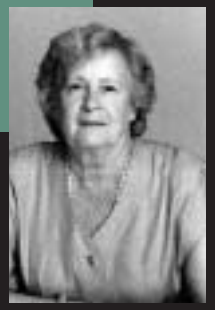
Mr Hartigan served as Honorary Treasurer for the latter half of the year.He is a Fellow of the Institute of Chartered Accountants in Australia and holds office within that Institute. He is also a Fellow of the Institute of Company Directors and holds directorships in public and private companies. He is currently Managing Director of South Pacific Securities Pty Ltd. His work in corporate merges and acquisitions earned him Businessman of the Year in 1988. He has been retained for projects by the NSW Government and published the Hartigan Report, a review of Local Government operations in NSW. Serving in the Royal Australian Armoured Corp from 1967 to 1969, he saw active service in Vietnam. Mr Hartigan is a member of the Executive Board.

Dr Diana Horvath AO

Dr Horvath was appointed Chief Executive Officer of the Central Sydney Area Health Service in 1992. She has chaired the National Health and Medical Research Council, been President, Australian Hospital Association, and served for a five year term as a Commissioner with the Health Insurance Commission. She is an active member of the Trade Policy Advisory Commission. She was recognised for her work in Australian public health when she was made an Officer of Australia in 1995. Dr Horvath is a member of the Executive Board.

Dr Edward Kremer OAM

Dr Kremer is a general practitioner at Bondi with a particular interest in fund raising. He is a member of the Royal Australian Army Medical Corps and consultant to the Director of Health Services NSW. Dr Kremer is the AMA representative to the Medical Advisory Panel, Department of Veterans' Affairs, Canberra. He is a member of the Faculty Board, Royal Australian College of General Practitioners, NSW, and the representative on the NSW Advisory Panel to the Department of Veterans' Affairs.



Mrs Ethel Lane AM MBE

Mrs Lane joined Concord Hospital in 1942 as an Australian Army nursing sister. She has been actively involved in services for ex-servicemen and women for many years and in 1994 was honoured by the naming of the EM Lane Chair of Surgical Nursing, Faculty of Nursing, University of Sydney. Mrs Lane is a member of the Executive Board.

Dr Charles Pawsey

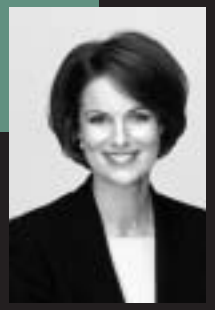
Dr Pawsey graduated from the University of Adelaide in 1967. He spent three years at Queen Elizabeth Hospital in Adelaide and then at Greenslopes in Brisbane as a National Heart Foundation Research Assistant undertaking research into the Renin-Angiotension system and hypertension. He undertook his physician traineeship at Sydney Hospital in 1972-73 and his Cardiology training at Royal Prince Alfred Hospital in 1974-75 and at Johns Hopkins Hospital in 1976. Since 1977 he has been a Staff Cardiologist at Concord Repatriation General Hospital. Dr Pawsey is a member of the Executive Board.

Mr Graham Richardson

Mr Richardson is a former Senator and member of both Hawke and Keating Ministries, where he held several portfolios including Minister for Health. Mr Richardson resigned from federal parliament in 1992 and currently is a political commentator with Channel Nine. He was a member of the Sydney Organising Committee for the Olympic games and Mayor of the Olympic Village.

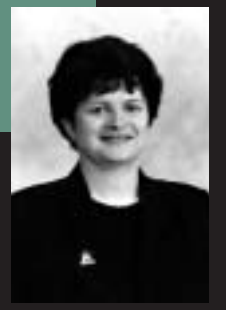
Ms Kerry Russell

Ms Russell is the Director of Nursing, Concord Repatriation General Hospital. She has an extensive health background and has been employed by CSAHS for a period of 24 years. From 1996-98 Kerry was seconded to the NSW Health Department, as Associate Director, Nursing Branch. She has an interest in strategic planning, financial management, resource allocation, and recruitment and retention issues. Holding a Bachelor of Administration from the University of New England, she is a member of the NSW College of Nursing and a surveyor with ACHS. Ms Russell is a member of the Executive Board.



Ms Ann Sanders

Ann Sanders is the senior news anchor for Channel Seven News. Over the last 24 years she has presented major news events from around the world including the scene of the Thredbo disaster, the Port Arthur massacre, the funeral of Diana, Princess of Wales and the tragedy of the Children of Chernobyl to Australian viewers. Her presenting roles have included Australia's Most Wanted, 11am, local and federal elections and the Sydney Olympics. Ann is married with two sons and is an active supporter of many charitable organisations.



Dr Margaret Sanger

Dr Margaret Sanger is Director of Medical Services at Concord Repatriation General Hospital. Graduating with honours in Medicine from the University of Sydney she spent five years practising clinical medicine at Concord and Royal Prince Alfred Hospitals. She holds a Master of Health Administration and Fellowship of Royal Australian College of Medical Administration. Dr Sanger is a member of the Executive Board.

Rear Admiral Peter Sinclair AC

Rear Admiral Sinclair born in Sydney 1934 and educated at North Sydney Boys High School and the Royal Australian Naval College. His service in the Royal Australian Navy 1948-1989 included command of HMAS Duchess, HMAS Hobart, HMAS Penguin, Maritime Commander Australia and Commandant Australian Defence Force Academy. He was coordinator Flood Relief Operation Bogan Shire 1990 and Governor NSW 1990-1996. He was Chairman of the Council of the Order of Australia and is Deputy Chair of the Newcastle Permanent Building Society. Holding Honorary Doctorate from the University of Sydney and Southern Cross University and life membership of the RSL, he is Patron of Hunter Medical Research Foundation and Australian Surf Live Saving Foundation. He operates 'Flagship' Poll Hereford Stud near Tea Gardens NSW.

Sir Bruce Williams KBE

Sir Bruce is a former Vice Chancellor of the University of Sydney and member of the Reserve Bank Board and is currently a member of the Finance Committee, University of Sydney, and Chair of the Sydney International Piano Competition of Australia. Sir Bruce was Chair of the Council's Building Subcommittee, overseeing the capital works project for the ANZAC Research Institute. He is a member of the Executive Board.

FINANCIAL PERFORMANCE

Synopsis of Financial performance

Income Streams	2000-2001	2001-2002
Peer reviewed funding	314,959	1,288,014
Fundraising	89,042	64,842
State government grant	442,400	442,400
Donations	186,911	195,278
Interest	122,319	110,072
Total Income:	1,155,631	2,100,606

Expenditure Streams	2000-2001	2001-2002
Salary costs	203,959	725,879
Administrative costs	211,728	327,728
Consumables	41,341	141,796
Repairs and maintenance	313,663	167,556
Depreciation	148,306	172,654
Total Income:	918,997	1,535,623
Net Profit:	236,634	564,983

This synopsis demonstrates the changing focus of the organization. Its success in attracting peer reviewed funding for research is balanced by the increases seen in the salaries, consumables and administrative costs necessary to carry out this research. The completion of the construction of the ANZAC Research Institute is reflected in the drop in repairs and maintenance expenditure.

The Institute has got off to a resounding start in attracting scientists whose recognised prowess is reflected in the funding and grants received.

Detailed Financial statements are available in the pocket in the back cover of this report.

FUNDRAISING & PUBLIC RELATIONS

The year has again been full of growth for the Foundation and the ANZAC Research Institute. All of this has been made possible through the continued support of state and federal governments, the corporate sector, RSL Sub-Branches and Clubs and the many supporters and friends of the ANZAC Health and Medical Research Foundation.

Friends of the ANZAC Research Institute (FOTARI) continue to be a consistent source of support for which we are very grateful. This year we had the opportunity to show many of them the results of their support when they graciously accepted invitations to the opening and were entertained to tours lead by the scientists of the ANZAC Research Institute.

The 2nd ANZAC Research Institute Seminar, held in August 2001 on "The Last Frontier: Progress in Neural Degenerations", was sponsored by a bequest to the memory of Lt. Col. Sir Albert Coates and other medical staff who served in Burma. Fifty specialists and GP's listened to experts in the field from both interstate and overseas including Professor Kenneth Fischbeck from NINDS in Bethesda USA. Sponsorship by several pharmaceutical companies and the registration fee allowed a profit of $10,500 to be achieved.

The Foundation's 7th Anniversary Gala Dinner and Auction held at the Regent Hotel on 19th October 2001. The evening was a complete success, attended by 200 guests, with the overall function and auction raising in excess of $34,000 for the Foundation. We are again grateful to Baxter Healthcare as our major sponsor and Tintilla Estate for donation of the wine for the evening.

We were entertained by Lt Col Peter Cosgrove as our speaker at the Annual Dinner and graced by the presence of Prof Marie Bashir, Governor of NSW and Lady Mary Fairfax.

Early in April 2002 we were pleased to entertain 200 dignitaries, guests, sponsors and contributors at the Official Opening of the ANZAC Research Institute. The Right Reverend Peter Hollingworth Governor General of Australia and Patron in Chief of the ANZAC Health and Medical Research Foundation came to officially open the Institute. Like many of our supporters he expressed great interest in our research. Once again the generosity of Baxter Healthcare was apparent with event sponsorship of $10,000 and a gift of $75,000 to purchase a major piece of equipment given to mark the Opening. The occasion also saw the opening of the Commonwealth Bank of Australia Reading Room that was also accompanied by a donation of $10,000 to purchase publications by the CBA. Other gifts to specially to mark the Opening were received from City of Canada Bay and Concord RSL. There was enthusiastic television and print media coverage of the event.

The ANZAC Research Institute has been showcased to many international, interstate, and local visitors. These include government ministers responsible for Veteran's Affairs in Korea and Malaysia, CEO of British Commonwealth Ex-Services League, RSL State President Queensland, the entire State Council of the RSL NSW branch and the Executive of Council of Ex- Servicewomen's Associations of NSW. Several visiting professors and researchers participated in our seminar programme. In this year two medical students from The Netherlands and visiting academics from Germany and Iran spent several months with our research groups.

Representatives from War Widows Guild of Australia NSW and Council of Ex-Servicewomen's Associations NSW enjoy the day

Ms Ann Sanders and Her Excellency Prof Marie Bashir, Governor of NSW

Board members of CSAHS & ANZAC HTMRF meet Her Excellency

Lt General Peter Cosgrove speaks about East Timor at the Gala Dinner

Left: Professor John Young accepts generous gift from Baxter Healthcare's Mr Brian Lee to mark the opening

Right: Hon. Tim Fischer entered by Professor Garth Nicholson

Left: Chairman of CSAHS Board, Chris Puplick in conversation with John Gatfield from Sky News

Right: Alice Kang arrives with members of the Returned and Services Members

Left: Staff and Guests

Right: Commander Pataky, Professor David Handelsman, Dr Diana Horvarth, His Excellency Reverend Dr Peter Hollingworth and Mrs Ann Hollingworth

DONER HONOUR ROLL

Veterans and Community Organisation's Donor Honour Roll

$1,000 and over

CMT Association of NSW
Canterbury Hurlstone Park RSL
Chester Hill -Carramar Sub Branch
Dept of Haematology CRGH
Military Medical Symposium
Miranda RSL Sub Branch

$500 and over

City of Canada Bay
Concord District Sub Branch RSL
Gold Coast All Sports Bowls
Moss Vale RSL
Motor Neurone Association

$100 and over

AAMWS Association
Dust Diseases Board Fund
Epping Sub Branch Donation
North Sydney RSL Sub Branch
Pittwater RSL Sub Branch

Corporate Donor Honour Roll

$50,000 and over

Baxter Healthcare P/L

$10,000 and over

Boden Conference University of Sydney

$1,000 and over

Bio-Rad
Boehringer Ingelheim Pty Ltd
Commonwealth Bank of Australia
Fisher Biotec
Glaxo Smith Kline
Ipssen Pharmaceuticals
Johnson & Johnson Medical
Radiometer Pacific
Regal Health
Schering Pty Ltd

$500 and over

Corbett Research
Last Resort Support
Sanofi- Synthelabo

$100 and over

Integrated Sciences
"Friends of the ANZAC Research Institute" Honour Roll

Individual Donor Honouor Roll

$10,000 and over

Mr Gordon Nelson in Memory of Lt Col Sir Albert Coates

$1,000 and over

Dr Charles Pawsey
Dr Diana Bass
Dr John Linsley
Dr Michael Hayes
Dr Paul Collett
Dr Paul Waizer
Neville Jeffress

$500 and over

Dr Gary Pearce
Dr Gregory Falk
Dr Ramon Bullock
Dr Ross Bradbury
Dr Stephen Kalowski
Dr William Regan

$100 and over

Dr Eileen Collins
Marjorie J Pink
John Chalmers
Dr P Kennedy
B Turner
Donald Williams
Eric Appleton
Andrew Richardson
Desmond W Maguire
A Derricott
AE Kent
Alan Davidson
D Williams
GM Smith
GS Swinbourne
HR Clarke
LJ Ford
M.L. Roberts, Capt (Ret'd)
Major John P. Kelly (Retd)
Mr Walls
Mr WB & Mrs MJ White
Mrs Cherril Gray
Mrs N Wiencke
NJ Anderson
RS Bateup
RV Pearce
RW Balfour
V.M. Egan (OAM)

$50 and over

Anh Dung Tran
Stephanie Lawson
I & J Vassett
A Featherstone
Allen Malley
Allen S. Venn
Arthur J Birch
BJ Harrison
Bridgadier RW Morris
Bryn Jones
Geoffrey Rossiter
Gloria J Batkin
H Overton
JM Collins
John M White
KJ Farrugia
Mrs Ellen Dive
Mrs Francis H Burns
Peter Thomson
PL Peters
Ron O'Connor
Walter J. Bellman
William E Carter
Alex Schemierer
Dr A Everitt
Joan Larkins
J H Ashcroft

EVENT SPONSORS IN 2001 - 2002

The Council of the ANZAC Health & Medical Research Foundation would like to express their sincere thanks and appreciation to the following sponsors for their support of the Foundation's fundraising events. This year sponsors assisted with raising funds by supporting the 7th Anniversary Gala Dinner and Auction held at the Regent Hotel in October 2001, the 2nd Research Seminar in August 2001, and the Official Opening of the ANZAC Research Institute in April 2002.

GALA DINNER & AUCTION

Sponsorship

Major Sponsor:

Baxter Healthcare Pty Ltd

Corporate Table Sponsors:

Baxter Healthcare Pty Ltd

Hunt & Hunt Lawyers

Johnson & Johnson (Medical)

Anniversary Dinner Sponsors:

Professor Robert Lusby

Tintilla Estate Vineyard and Olive Grove

Last Resort Support Pty Ltd

Regal Health Services

Regent Hotel, Sydney

Auction/Raffle Sponsors:

Australian Jockey Club

The Hon. Ms Kerry Chikarovski MP

Channel 7

Concord RG Hospital Volunteers Auxiliary Inc.

Mr Alan Davidson AM MBE

Department of Veterans' Affairs

The Hon. Mr Tim Fischer MP

Green Design Indoor Plants

HCF Australia

Huka Lodge, New Zealand

Hunt & Hunt Lawyers

Macquarie Radio Network

Magic Moments Memorabilia

National World Travel, Roseland

Regent Hotel, Sydney

RSL Hyde Park Inn

Wests Tigers

Professor John Young AO

Acknowledgments

Toni Watson

Rebecca Britt

Christine, Toni and Rebecca await the dinner guests

OFFICIAL OPENING

Sponsorship
Baxter Healthcare Pty Ltd

Pledges
Baxter Healthcare Pty Ltd

Commonwealth Bank of Australia

Donations
City of Canada Bay

Concord RSL

Acknowledgments
Concord RG Hospital Environmental Services

Concord RG Hospital Gardeners

Concord RG Hospital Security

Mrs Alice Kang ,Veterans Liaison

Shuti Huang Ensemble

Provan Catering

Marqees Australia

Staff & Students ANZAC Research Institute

SEMINAR SPONSORS

Bequest to the memory of Lieutenant Colonel Sir Albert Coates
Astral Scientific

Corbett research

Fischer Biotech

Interpath Services

Integrated Sciences

Invitrogen

Motor Neurone Disease Association of NSW

Pharmacia

Radiometer Pacific Pty ltd

Sanofi-Synthelabo

Acknowledgments
Tessy Bananis

Staff and Students, Anzac Research Institule, April 2002

OPPORTUNITIES TO PARTICIPATE

Estate Planning

More and more supporters of ANZAC Health & Medical Research Foundation are ensuring that our vital research continues by including a bequest in their Will. This can also be done by codicil to an existing Will. There are usually four types of bequests to consider:

A Specific Bequest

This specifies the type of gift clearly, whether it be a gift of money, shares, property or life assurance policy.

A Percentage Bequest

This is the most flexible method of giving; the gift is automatically determined by the size of the estate and takes inflation into account.

A Residual Bequest

This is the amount that remains after the provisions for family and relatives have been made.

Your Whole Estate

This usually occurs when there are no living relatives and the Benefactor wishes to achieve something significant with their Estate.

The suggested wording for a bequest to ANZAC Health and Medical Research Foundation is:

"I GIVE to ANZAC Health & Medical Research Foundation, ABN 48 066 780 005, (the whole), or (a specific sum or piece of property), or (a percentage), or (the residue) of my Estate free of all duties and a receipt from the Treasurer or other authorised person shall be a complete and sufficient discharge for the Executor."

A bequest to ANZAC Health & Medical Research Foundation is a way of helping future generations to enjoy longer and more fulfilling lives.

OTHER GIVING OPPORTUNITIES

- ❒ Yes. I would like to help ANZAC Health & Medical Research Foundation.
- ❒ I would like to meet a representative from the Foundation to discuss making a bequest.
- ❒ I have already remembered ANZAC Health & Medical Research Foundation in my Will.
- ❒ Please send me more information about the Foundation's Bequest Program, including the recognition of benefactors.
- ❒ A gift to continue vital scientific research.
- ❒ Please send me more information on the FOTARI.

I / We wish to make a donation of $_____
to ANZAC Health and Medical Research Foundation

Name:_____

Address: _____

Postcode: _____

Telephone: Home: _____ Work: _____

Mobile _____

Email: _____

Payment is by:

❒ Cheque ❒ Money Order ❒ Visa ❒ Bankcard ❒ Mastercard

___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ Expiry: ___ / ___

Signature: _____ Date: _____

For further information contact:

ANZAC Health & Medical Research Foundation
ANZAC Research Institute
Hospital Road CONCORD NSW 2139
Telephone: (02) 9767 9100 or Facsimile: (02) 9767 9101
www.anzac.edu.au
Email: anzac@anzac.edu.au

All gifts over $2.00 are tax deductible