



# Australian Defence Human Research Ethics Committee

Annual Report 2001





Australian Defence  
Human Research Ethics Committee

Annual Report  
January 2000 ~ June 2001



# Foreword

Institutional Ethics Committees are an important component of all research involving both humans and animals in Australia. In 1964 the 18th World Medical Association General Assembly (WMAGA) adopted a series of ethical principles to be followed whenever humans participate in a research project. This so-called Declaration of Helsinki for the first time defined the ethical principles to be followed in medical research involving human subjects. The most recent amendments were adopted by the 52nd WMAGA, which met in October 2000 in Edinburgh.

The early documentation on research was the Belmont Report (1978) where the authors identified three basic ethical principles. The first is *respect for persons*, that is the individual is to be treated as an autonomous agent. The second is *beneficence* that is, the obligations to maximise possible benefits and minimise possible harms. Harm extending beyond physical harm to embrace psychological and emotional duress or social disadvantage. The last is *justice*. This highlights the inequalities of the early 20th century research where the burden of serving as medical research subjects fell largely on public patients whereas the benefits of improved care was reaped by private patients. Further, justice concerns involved the use of public funds for research.

In 1982 the National Health and Medical Research Council (NHMRC) published a statement with guidelines on human experimentation. In 1988 the Chief of the Defence Force and the Secretary for Defence established the Australian Defence Medical Ethics Committee (ADMEC) as a non-statutory body. ADMEC first met in November 1989 and presently assembles in Canberra five times a year.

In June 2001, the Honourable Peter Reith, Minister for Defence, approved the name change to the Australian Defence Human Research

Ethics Committee (ADHREC). This name change is consistent with the national nomenclature suggested by the NHMRC and reinforces the scope of the committee's charter with regard to human factors in the Australian Defence Force. This charter encompasses any research in the ADF involving humans directly or indirectly.

The Surgeon General Australian Defence Force chairs the committee, which presently consists of seven other members, each appointed by the Minister of Defence for five-year terms. In February 2001 the committee welcomed the appointment of Professor John Pearn AM RFD to its membership. Professor Pearn, a former Surgeon General Australian Defence Force, previously chaired ADHREC from June 1998 to December 2000.

In line with the NHMRC practice of providing Annual Reports based on the financial year, this report embraces the committee activities for the year 2000 through to June 2001. During that time 66 new research protocols were considered indicating the continual interest, dedication and growth in active research both within the ADF as well as non-ADF corporations. The committee agenda always permits invited guest involvement with observer status to participate in the decision-making processes. During the past eighteen months, 14 observers have attended the committee's activities.

ADHREC exists to safeguard the rights of Australian serving men and women who participate in human research and to afford them precisely the same rights existing within the civilian populace.

**Air Vice-Marshal Bruce H. Short RFD**  
**Surgeon General Australian Defence Force**  
**Chair - Australian Defence Human Research**  
**Ethics Committee 7 July 2001**

# Australian Defence Human Research Ethics Committee



## **Air Vice-Marshal B.H. Short, RFD** **Chair January 2001 onwards**

Air Vice-Marshal Bruce H. Short is the Surgeon General, Australian Defence Force. The Surgeon General facilitates outreach into the civilian health community and acts in a representational capacity on behalf of the Defence Health Service. He chairs senior health committees including the Defence Health Service Advisory Council.

Following postgraduate training Air Vice-Marshal Short was admitted as a Fellow of the Australasian College of Physicians in 1973 and commenced private practice in Sydney as a specialist general physician with particular interests in cardiovascular medicine. In 1989 he was admitted as a Fellow of the American College of Chest Physicians, in 2000 he advanced to Fellowship of the American College of Physicians and in 2001 was elected a Fellow of the Australasian College of Tropical Medicine. Air Vice-Marshal Short holds appointments at Royal North Shore Hospital, Sydney Adventist and North Shore Private hospitals and since 1975 has been a clinical lecturer in Cardiology at the University of Sydney.

Air Vice-Marshal Short has completed 41 years continuous service in the Australian Defence Force following his enlistment in 1960 as a private in the Sydney University Regiment. Following four years Reserve infantry training he transferred to the RAAF medical undergraduate scheme. He graduated from the University of Sydney and following a residency at Royal Prince Alfred Hospital, Sydney, he commenced permanent Air Force service in 1968 at 3 RAAF Hospital. In addition to his clinical duties he performed strategic aeromedical evacuation service to Vung Tau, Vietnam. He was then posted as Senior Medical Officer RAAF Point Cook, and Senior Medical Officer RAAF Williamstown. In 1972 he transferred to the RAAF General Reserve and, in late 1973, served at 4 RAAF, Butterworth, Malaysia, as a specialist physician.

In 1987 he transferred to the RAAF Specialist Reserve (Medical) and was appointed the Consultant in General Medicine to the Director General of Air Force Health Service (1994) and the Consultant in General Medicine to the Surgeon General (1997). Later he served as Principle Reserve Medical Officer (NSW). In June 1998 he was appointed as one of the inaugural Assistant Surgeon's General and in December he became the foundation Editor of the Journal of the Australian Defence Health Service. In January 2001 he was appointed Surgeon General, Australian Defence Force.

He resides in Sydney with his wife, Joan, and they have a daughter and a son. His special leisure interests are mountain trekking and golf.



**Professor J.H. Pearn, AM RFD**  
**Chair January 1999 - December 2000**  
**Member January 2001 onwards**



Professor Pearn has been a member of the Australian Defence Human Research Ethics Committee since 1990, and its Chair during 1998 until December 2000. During his service career, Professor Pearn has served in a number of Medical Officer, command and non-regimental positions in Australia, the United Kingdom and Papua New Guinea. He has published extensively in the area of military medicine and military history. In his civilian life, Professor Pearn is the Professor of Paediatrics and Child Health (University of Queensland) and the Deputy Head of the Graduate Medical School at the University of Queensland and the former Surgeon General of the Australian Defence Force. He is a Senior Paediatric Consultant at the Royal Children's and Mater Children's Hospitals in Brisbane and Honorary Consultant in Paediatrics and Genetics to the Royal Women's Hospital, also in Brisbane. He is an Honorary Life Member of the Human Genetics Society of Australasia of which he is a past president. He is the author of some 300 papers on clinical medicine and medical research in the international refereed literature, the author of 12 books and of some 60 chapters in medical textbooks in the international medical literature. He has a special interest in medical ethics and for his work in this field was created a Fellow of Green College, the University of Oxford.

*Member*

Colonel Warfe is a specialist public health and tropical medicine physician with significant experience in occupational and preventive medicine at national and international levels. He is an authority on military and preventive medicine, emergency health intervention strategies, in responding to national disasters and implementation of humanitarian support services and has been responsible for the operational and humanitarian health support plans for numerous successful missions. He is a Graduate of the Army's Command and Staff College. Colonel Warfe is an Assistant Professor of Military and Emergency Medicine in the USA and senior health adviser to the Departments of Health, Foreign Affairs and Trade, and Veterans' Affairs. He was awarded the Conspicuous Service Cross as the Senior Medical Officer, United Nations Assistance Mission to Rwanda. Colonel Warfe was the senior consultant preventive medicine physician to the United Nations Transitional Authority East Timor. Colonel Warfe has been Director of Environmental Medicine, Occupational Health and Safety, Operational Health Policy and Development, and Clinical Policy directorates in Australian Defence Headquarters. Colonel Warfe is a recognised author of numerous occupational and preventive medicine publications and an accomplished media commentator, as a member of the Australian Medical Disaster Co-ordination Group, Colonel Warfe researched and wrote the Defence chapter on Managing Health Support of Mass Gatherings. Colonel Warfe is a Fellow of the Faculty of Public Health Medicine, Fellow of the Australian College of Tropical Medicine, Member of the Royal Australian College of Medical Administrators, Member of the Australian College of Psychological Medicine, Vocationally registered General Practitioner. He is the Vice President of the ACT Division of General Practice, the Chairman of the ACT chapter of the Australasian Faculty of Public Health Medicine, a member of the United Nations Advisory Committee on Traumatic Stress Syndromes, the Deputy Director Training and Chairman of the Medical Research Ethics Committee, St John Ambulance Australia. Colonel Warfe has been a member of the Australian Defence Human Research Ethics Committee since 1998. Colonel Warfe is currently the Managing Director of the Preventive Medicine and Rehabilitation Centre, Deakin ACT and a Consultant in Public Health Medicine to the Australian Medical Association.



## *Justice Terence J. Higgins*



Justice Terence Higgins is a resident Judge of the Supreme Court of the Australian Capital Territory and a Judge of the Federal Court of Australia, being appointed on 2 July 1990. He was born in Hobart, Tasmania but was educated at St Augustine's Christian Brothers College in Yarraville, Victoria and later, at St Edmund's College, Canberra and the Australian National University, Canberra. He was admitted as a barrister and solicitor in the ACT in 1967 and served at the bar as Queen's Counsel (ACT, NSW and Victoria) from 1987 to 1990. He was Vice President of the ACT Bar Association from 1988 until his judicial appointment in 1990. Justice Higgins first began practising law with J.J. O'Neill, solicitor in 1967 and remained until 1971 when he became partner in the law firm Higgins, Faulks & Martin (formerly Higgins & Faulks). In 1981 that firm became Higgins Solicitors and he remained a partner until 1984 when he went to the ACT Bar.

Justice Higgins is currently the National President of the Royal Life Saving Society of Australia (appointed 1997), Chairman of the St Edmund's College Board, Chairman of the Open Family Foundation ACT (as well as a National Board member), Chairman of the Australian National University's Legal Workshop Committee and Member of the Australian Academy of Forensic Sciences ACT Chapter. In the past, Justice Higgins has been involved in many varied committees and associations including Chair of the ACT Community Law Reform Committee (1994-96), Senior Member of the ACT Gaming and Liquor Authority (1987-90) and President, Senior Common Room of the John XXIII College ANU (1993-95). Married to Anne with five children and residing in the Australian Capital Territory, Justice Higgins enjoys squash, chess, reading, tennis and bridge. Justice Higgins was appointed to ADHREC in 1993 and has served on the Committee continuously since.

*Member*

## *Mr David Dillon*

Mr Dillon was born in Sydney, and spent most of his childhood in Sydney and the Blue Mountains. Mr Dillon graduated from Wagga Wagga Teachers College and, after completing compulsory National Service in the Army, taught in the Snowy Mountains, Cooma, Mittagong, North West NSW and Tenterfield. After completing a Bachelor's Degree at the University of New England, Mr Dillon spent over 20 years in the ACT Schools Authority, both in Schools and Schools Office positions. During that period Mr Dillon held a number of professional and community positions including President of the ACT Primary Principals' Association and President of the Australian Primary Principals' Association, representing over 7,000 Government and non-Government schools throughout Australia. He also was the foundation President of Belconnen Soccer Club and Canberra City Soccer Club, when the latter club first entered the national Soccer League of Australia. In addition, Mr Dillon held administrative positions with the ACT Soccer Federation, the National Soccer League Executive and the Executive of Australian Soccer Federation. Mr Dillon maintains a long-term affiliation with the Anglican Church, having served in various capacities in parishes for some 30 years, including Lay Reader, Parish Council Chairman and Synod Representative. He retired as Principal of Melba Primary School in 1990, and settled on a small farm on the Far South Coast of NSW, where he still resides. Married with three children, he enjoys life on the farm, entertaining grandchildren, golf, fishing, and travel and church activities, where he is still a licensed Lay Minister. Mr Dillon is a foundation member of ADHREC and has served continuously since.



*Member*



## *Mrs Elizabeth Grant, AM*



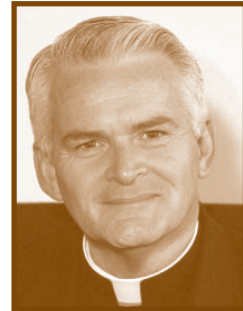
Mrs Grant is a pharmacist and a company director. She graduated from the Victorian College of Pharmacy and has had long experience in retail and hospital pharmacy. She is a life member of the Pharmaceutical Society of Australia. Member of the ACT House of Assembly 1979-81, a member of the ACT Parole Board 1982-1988, and a member of ADHREC since its formation in 1988. Mrs Grant was an inaugural member of the National Health and Medical Research Council Medical Research Ethics Committee from 1982 - 91, and a member of various Committees of NHMRC from 1982. At present is the Chairman of the NHMRC Animal Welfare Committee. She has been a member of the ACT Department of Health and Community Care Human Research Ethics Committee since 1994 and Chairman since 1997. Mrs Grant has also been the Chair of ACT Festivals Incorporated, 1989 - 1998. Her interests include community affairs, sport and the arts.

*Member*



## *Reverend Monsignor Max L. Davis, AM RANR*

Monsignor Davis was born and raised in Perth. He first joined the Royal Australian Navy (RAN) to become an electrician. He subsequently departed the RAN to complete his seminary training in Western Australia and New South Wales, and, after graduation and ordination, was involved in teaching and parish work. He was recruited by the Australian Army into the Citizen Military Forces in 1971 and was later commissioned and appointed to the RAN. Monsignor Davis served on a number of HMA Ships and has attended USN Chaplains School, completed External Studies Staff Course and graduated from Joint Services Staff College with a Graduate Diploma in Strategic Studies. When the RAN Chaplain Branch was restructured in 1990, he was advanced to Senior Chaplain and subsequently selected for Principal Chaplain in 1993. In the same year he was made a Prelate of Honour with the title Reverend Monsignor by Pope John Paul II and appointed Vicar General of the Military Diocese. In 1996, he was appointed as the Chancellor for the Military Diocese of the Australian Defence Force. Monsignor Davis' last full time appointment was Director General Chaplaincy - Navy, 1993 - 1998. During that period he was Chairman/Secretary of the Principal Chaplain's Committee - Navy, and a member of the Principal Chaplain's Advisory Group to Headquarters ADF. He was naval adviser to the Religious Advisory Committee to the Services. Monsignor Davis was appointed to ADHREC in 1994.



*Member*

## *Dr Alan Twomey*



Dr Twomey holds a Bachelor of Science degree in Applied Psychology from the University of New South Wales and a Doctorate of Philosophy from the University of Wollongong. Dr Twomey helped fund his undergraduate studies through employment in a broad range of occupations that provided him with an in-depth and broad appreciation of Australian social diversity. Prior to, and during, his postgraduate studies, Dr Twomey was employed as a research assistant, tutor and lecturer. Subsequently, Dr Twomey joined the Australian Defence Organisation where he gained administrative experience before joining the psychology stream as a research psychologist.

In 1997 he became Director of Psychology (Navy) and is currently responsible for all research undertaken by the Psychology Research Group within the newly formed Defence Force Psychology Organisation. Dr Twomey's doctoral research involved completion of a major research thesis that included both empirical and theoretical components and incorporated elements of psycholinguistics, and cross cultural, cognitive and educational Psychology. It involved using diverse research methods and integrating theoretical perspectives of different academic disciplines.

Dr Twomey now has more than 25 years experience in undertaking research in a wide range of areas, including 13 years in Defence. During this time he has published in a number of journals and books and has initiated many improvements to the way in which psychological research is undertaken in Defence. Dr Twomey was formally appointed to ADHREC in January 2000.

*Member*

*Major Rosemary Landy*  
*Executive Secretary (March 2001 onwards)*  
*Minute Secretary (January -March 2001)*

Major Landy graduated with honours from the Faculty of Dentistry, University of Melbourne in 1978. She joined the Royal Australian Army Dental Corps in 1980 after having spent a year doing oral surgery. She has served in fourteen locations throughout Australia in both clinical and Command and Staff roles. She has also served in New Zealand, where she was awarded a Graduate Diploma in Oral Surgery with distinctions. Major Landy is married to an Army Officer and has two young sons.



*Lieutenant Commander Matthew Blenkin*  
*Executive Secretary (July 2000- March 2001)*

Lieutenant Commander Blenkin joined the Navy undergraduate scheme in 1987 while completing his Bachelors degree in Dentistry at the University of Queensland. Upon graduation he was posted to HMAS Albatross. Following this he was posted to the fleet where he spent two years in the fleet mobile dental team (West). After a number of clinical shore postings he returned to sea as the dental officer onboard HMAS SUCCESS. From there he became Fleet Dental Officer at Maritime Head Quarters then undertook 18 months full time study at the NSW Institute of Forensic Medicine towards a PhD in forensic dentistry at the University of Sydney. He became Executive Secretary of ADHREC in July 2000 and held the position until his posting to SO1 Health and Human Performance Research. He is currently finishing off his doctoral thesis and is now the Staff Officer for Health and Human Performance Research within the Defence Health Service.



*Secretariat*

*L*  
**Lieutenant Colonel Victoria Ross**  
**Executive Secretary (January - July 2000)**



Lieutenant Colonel Ross joined the Army undergraduate scheme while completing her medical training at the University of Melbourne and the Royal Melbourne Hospital. After two years working as a medical resident at the Geelong Hospital, Lieutenant Colonel Ross came into the full time Army. Lieutenant Colonel Ross has had postings to the First Field Hospital, Duntroon Medical Centre (now Canberra Area Medical Unit), Headquarters Logistic Command, the Directorate of Clinical Policy, Defence Health Service Branch and now the Directorate of Preventive Health, Defence Health Service Branch. Lieutenant Colonel Ross was awarded Fellowship of the Royal Australian College of General Practitioners in 1997 and is currently completing a Masters of Public Health through the University of New South Wales. She became Executive Secretary of ADHREC in July 1998.

*M*  
**Major Suzanne Turner**  
**Minute Secretary (March 2001 onwards)**



Major Turner graduated with a Bachelor of Pharmacy from the University of Sydney in 1989. She joined the Royal Australian Army Medical Corps that same year and was posted to 232nd Supply Company (now Defence National Storage and Distribution Centre Medical and Dental Company) at Randwick. She was then posted to 1st Field Hospital for five years, after which she returned to the renamed Randwick Logistic Company. She has also been posted to Headquarters Logistic Support Force before taking up her current posting with the Defence Health Service Branch. Major Turner is married to a soldier and has two young children.

*Secretariat*

*M*  
**Ms. Raphaela Jarvis**  
**Assistant Executive Secretary**  
**(July to September 2000, January 2001 onwards)**

Ms Jarvis has worked in the Defence Health Service Branch since July 1998. Ms Jarvis has worked in a number of areas within the Defence Health Service, including Health Material, the Joint Health Support Agency and as a member of the Branch Coordination Team. During this time Ms Jarvis completed a Bachelor of Science from the Australian National University. Ms Jarvis took up the role of Assistance Executive Secretary on a temporary basis during the period July till September 2000, and took up the role on a permanent basis in January 2001.



*M*  
**Mr. Edward Newman**  
**Assistant Executive Secretary (September - December 2000)**

Mr Newman has worked in the Defence Health Service Branch since June 1997. Mr Newman has held several positions within Defence Health Services including Branch Coordination Team, Strategic Health Planning & Intelligence, Directorate of Preventive Health and HealthKEYS Project. Mr Newman took up the role of Assistance Executive Secretary on a temporary basis during the period September 2000 to December 2000.



*M*  
**Ms. Kelly West**  
**Assistant Executive Secretary (January -February 2000)**

After completing her Bachelor of Arts and Science degrees at the Australian National University, Ms West spent time as a consultant for a private sector information technology firm, before contracting to the national Defence Information Systems Call Centre. Ms West was accepted into the Department of Defence Graduate Development Program in late 1998, and throughout 1999 completed a series of job rotations within Defence, including the Defence Science and Technology Organisation; International Policy Division, and the Directorate of Clinical Policy in the Defence Health Service Branch. Following her graduation from the Program, Ms West took up her final placement with the Directorate of Clinical Policy.



## *The History of the Australian Defence Human Research Ethics Committee (ADHREC)*

After World War II, there was growing concern worldwide regarding human experimentation. This led to the Declaration of Helsinki in 1964, which defined the basic principles to be followed whenever humans are used in a research project. The National Health and Medical Research Council (NHMRC) subsequently published a statement on human experimentation in 1982. The Australian Defence Medical Ethics Committee (ADMEC) was subsequently formed to ensure that the Defence Force complied with these guidelines. The Chief of the Defence Force (CDF) and the Secretary for Defence formed ADMEC as a non-statutory body in 1988. The documents dealing with ADMEC and its functions are:

- Defence Instruction (General) Administration 24-3 Function, Structure and Procedures for Obtaining Clearance for Research from ADMEC
- Health Policy Directive 205 Australian Defence Medical Ethics Committee
- Defence Reference Book 4 Senior Defence Committees

The Defence Instruction (General) was published in 1989, and was followed by the Health Policy Directive in 1994. The first meeting of ADMEC was held in November 1989. Meetings were originally held biannually or as needed, but as the amount of research conducted in Defence has grown over the years, the Committee now meets more frequently with some out of session determinations being made as required. A total of 43 meetings have been convened since its inception.

In June 2001 the committee changed its name to the Australian Defence Human Research Ethics Committee (ADHREC). The Committee met eight times in the period from Jan 2000 to end Jun 2001, an increased frequency from 1999. This tenth annual report covers the period from January 2000 to June 2001.

A new Australian Defence Force Publication is currently being drafted, aligning the function of ADHREC with the newly formed Defence Health and Human Performance Research Committee. This ADFP will supersede the DI(G) and the HPD, detailing the structure, function and procedures for obtaining clearance for research from ADHREC. This new document is due for publication in late 2001.

### *Committee Members*

The appointment of Dr Alan Twomey, Head of the Psychology Research Group, to ADHREC has proved to be highly value adding to Committee considerations.

During 2000, Major General Pearn's term as the Surgeon General Australian Defence Force was in its final year, as was his term as the Chair of ADHREC. The announcement of Major General Pearn's successor Air Vice-Marshal Short late in the year raised the issue of continuing Major General Pearn's service on the committee. The Honourable John Moore, Minister for Defence officially appointed Professor Pearn as a member of ADHREC in January 2001.

Air Vice-Marshal Short commenced his term as the Surgeon General, Australian Defence Force in January 2001 and chaired his first ADHREC meeting in February 2001. The structure of the Committee, which meets NHMRC guidelines, is detailed on page 44.



The secretariat had a number of changes during the January 2000 - June 2001 period. There was a succession of three Executive Secretaries, two Minute Secretaries and three Assistant Executive Secretaries.

Several guests were invited to attend meetings in 2000/01:

The Assistant Surgeon General Air Commodore Bruce Short, RFD, (Airforce) attended the November 2000 ADHREC meeting as a hand-over of the Chair of the Committee.

In February 2001, the meeting was attended by Colonel Rob Millar, Director Health Capability Development, and Wing Commander James Ross, SO1 Health and Human Performance Research. Colonel Millar and Wing Commander Ross briefed ADHREC on the Defence Health and Human Performance Research Committee (DHHPRC). This briefing highlighted the importance of the role and function of both ADHREC and the DHHPRC, and the need for these functions to be aligned whilst at the same time maintaining the autonomy of both committees.

Doctor Keith Horsley also attended the February ADHREC meeting. Doctor Horsley briefed the committee on the research priorities of the Department of Veterans Affairs (DVA). Doctor Horsley outlined past, present and future research being undertaken by DVA.

Captain Tracey Carthew RAANC attended the June 2001 meeting as an observer. Captain Carthew is currently posted to Army Malaria Institute (AMI) as the Officer in charge (OIC) Clinical Trial Coordination. In this capacity,

Captain Carthew has undertaken the responsibility to develop her expertise in the ethics of medical research in the military. ADHREC is very encouraged by the pro-active position that institutions such as the AMI are taking to ensure that the research they undertake has best ethical practice.

Throughout the year, a number of researchers addressed the committee to provide briefs on the progress of their research and to address questions, concerns or queries that the committee raised. All briefings to the committee by researchers offer valuable interaction and provided an opportunity for an exchange of information. Such exchanges act to cement the interface between the Committee, the researchers, and the various research facilities within the ADF.

Attendance at meetings and expenditure details are listed on pages 45-49 and 50 respectively.



History

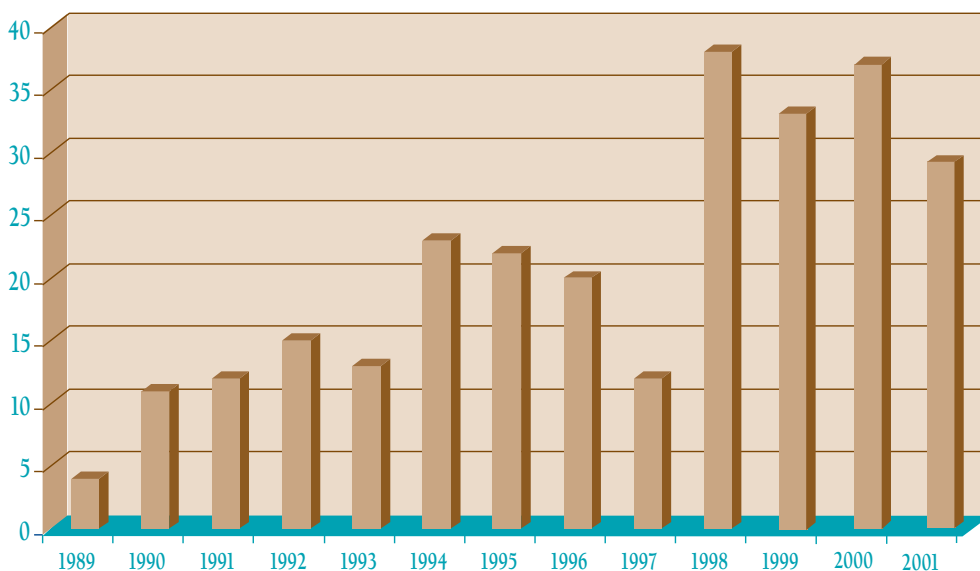


## New Research Projects Considered during the period Jan 2000 - Jun 2001

The Committee received 66 new protocols during the reporting period, which is in line with the trend observed in previous years towards an increasing volume of research. These protocols are detailed on pages 37 -42. The status of these protocols as at June 30 2001 is as follows:

Protocol Status	Number 2000	Number 2001	Total
In Progress (approved)	25	15	40
New Protocol (for consideration)	0	5	5
Pending Approval	5	4	9
Finalised	3	1	4
Completed	2	0	2
Withdrawn (by researcher)	2	3	5
Not Approved	0	1	1
<b>TOTAL</b>	<b>37</b>	<b>29</b>	<b>66</b>

Number of New Protocols considered by ADHREC by Year



2001 values only until end June 2001.

## *ADHREC-Endorsed Projects Completed During the period Jan 2000 - June 2001<sup>1</sup>.*

### *Protocol 88/95 - Cognitive appraisal and coping strategies as predictors of success, psychological adjustment and morale in Australian Regular Army basic training.*

The findings from this study were presented as a thesis in partial fulfilment of the requirements for the Master of Clinical Psychology at the University of Queensland, and was entitled 'Psychological Adjustment to Basic Military Training: Application of a Stress and Coping Model'. This study examined the utility of a cognitive-transactional stress and coping model in predicting psychological adjustment to basic military training (BMT). Both the direct and buffered effects of predictors were investigated. A total of 334 military recruits completed self-administered scales at the commencement of BMT (Time 1), during Week 2 of BMT (Time 2; n = 296), and during Week 10 of BMT (Time 3; n = 247). Following the completion of BMT in Week 13 (Time 4; n = 334), outcome data was obtained. Predictors included cognitive appraisal (self-efficacy, stress appraisal) and coping strategies (problem-focused [problem-solving, seeking social support] and emotion-focused [self-blame, wishful thinking, avoidance]). Dependent variables were Time 2 and 3 emotional distress and morale and Time 4 completion of BMT. Reference to a normative group suggested that recruits did not experience clinically significant levels of emotional distress at Times 1, 2 and 3, however there was an increase from Time 1 (24%) to Time 2 (43%) of recruits who satisfied criteria for *caseness* on the Brief Symptom Inventory. Results from hierarchical regression analyses indicated that after controlling for the effects of Time 1 psychological adjustment, higher levels of emotional distress at Times 2 and 3 were positively related to the use of emotion-focused coping strategies. Results from logistic regression analyses suggest that lower levels of stress appraisal are predictive of completion of BMT, while there was limited support for the stress buffering effects of problem-focused coping strategies. Practical implications and directions for future research were discussed.

### *Protocol 93/95 - The effect of dorsiflexion on range and reliability of passive straight leg raising.*

Although clinicians add ankle dorsiflexion to passive straight leg raising (SLR) to differentiate between hamstring and sciatic causes of painful SLR in patients with lumbar pain, the effects of dorsiflexion on range and reliability have not been investigated in a patient sample. Thirty-five patients presenting for treatment of unilateral lumbar pain with or without ipsilateral leg symptoms were sampled during the physical examination. Angle of hip flexion during a) SLR, and b) SLR with Dorsiflexion (SLR/DF) was measured using a gravity goniometer. Each procedure was taken to onset of lumbar or leg symptoms (P1). Two pairs of physiotherapists from different clinics acted as blinded examiners with two samples. Order of testing for procedures and examiners was randomised. Dorsiflexion significantly reduced SLR range by a mean of 9° across both samples. High inter-rater reliability (ICC>0.88) was found for SLR and SLR/DF. The 95% CI from the SEM showed that within-session changes of <12° for SLR, and <13° for

<sup>1</sup> Each researcher was contacted to clear the information presented prior to its inclusion in our Annual Report.

SLR/DF are consistent with error. These data show that SLR and SLR/DF are reproducible when measured to P1 in the clinic. Changes in range of SLR of  $<12^\circ$  are probably due to error but treatment effects are likely to account for greater observed changes in range. Clinicians can use these data to determine whether within-session changes in range of SLR are due to treatment effects.

This research was published as: Boland RA, Adams RD: Effects of ankle dorsiflexion on range and reliability of straight leg raising. *Australian Journal of Physiotherapy*, **46**: 191-200, 2000.

### ***Protocol 99/95 - Psychological status, immune function and health in Army recruits.***

This study investigated the effects of recruit training on physiological stress, psychological status and immune function. The participants were 55 male Australian Regular Army recruits. Blood samples, for counting lymphocytes, and saliva samples, for cortisol assay, were collected on arrival and at the end of each of the three four-week stages of training. Psychological state characteristics (Beck Anxiety Inventory [BAI], Beck Depression Inventory [BDI], Profile of Mood States [POMS]) were measured on those four occasions; a trait characteristic (Locus of Control of Behaviour [LCB]) was measured on the second and fourth occasions.

The initial cortisol level ( $18.74 \text{ nmol.L}^{-1}$ ) persisted for four weeks, then rose significantly thereafter, reaching  $31.89 \text{ nmol.L}^{-1}$  at the last sampling occasion. NK cell numbers dropped significantly, beginning at  $298.0 \text{ cells.mm}^{-3}$  and dropping as low as  $209.4 \text{ cells.mm}^{-3}$ . B cell and T cell numbers fluctuated about the baseline. The range was  $306.2\text{-}386.6 \text{ cells.mm}^{-3}$  for B cells, and  $1251.1\text{-}1464.7 \text{ cells.mm}^{-3}$  for T cells. Psychological status improved significantly over time. The BAI score went from 6.18 to 2.91; BDI went from 4.95 to 1.15; LCB dropped from 21.8 to 17.8; POMS went from 58.82 to 40.65.

The positive perception of the stress of recruit training, evident in the improving psychological status, correlated with the absence of any immunosuppressive effect of the stress. Thus, the psychosocial environment of recruit camp may have facilitated a style of bonding and socialising that buffers the effects of a stressor on immune function.

The results of this study have been incorporated into a doctoral dissertation (“Stress and the immune network”) and have been reported at the 1999 Annual Conference of the Australasian Society for Human Biology.

### ***Protocol 103/96 - Oral health survey on recruits at IRTB.***

This project was designed to report on the oral health of a sample of Army recruits in 1996. The primary aim of the study was to determine the caries (decay) experience of Army recruits in 1996 and to compare this data with other relevant studies, both military and civilian. The secondary aim was to relate caries experience to the history of fluoridated water consumption. The project involved a comparison of the oral health status of recruits with respect to socioeconomic and educational background and a comparison of the fluoride history and caries

experience of recruits. This study would provide baseline data for further studies of Army recruits as well as providing the military with data concerning the oral health of recruits and the initial level of dental treatment required, specifically identifying the incidence of impacted wisdom teeth and incidence of symptomatic wisdom teeth.

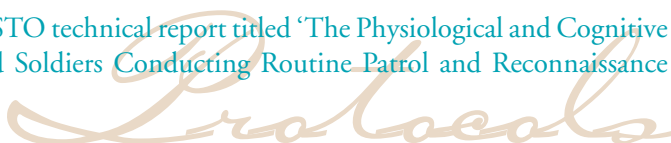
A sample of 499 Australian Army recruits was examined. The results of this study were reported in a thesis titled 'Dental Caries Experience in a young Adult Military population'. This research showed that subjects who had a lifetime exposure to fluoridated water had significantly lower levels of caries experience than subjects who had either a partial lifetime exposure or no lifetime exposure to fluoridated water. The mean Decayed, Missing and Filled Surfaces (DMFS) scores were 7.48, 9.75 and 10.50 for subjects with a lifetime exposure, partial exposure and no exposure to fluoridated water respectively. Comparison to other studies of young adults in Australia showed that there has been a decrease in dental caries experience, with an emphasis on restoration of carious lesions rather than extraction. Filled surfaces comprised 58% of the total DMFS index, with decayed and missing surfaces contributing 22% and 20% respectively. The majority of caries experience was found on occlusal surfaces, with proximal and smooth surfaces contributing 25% and 19% of the total DMFS index respectively.

### ***Protocol 104/96 - Physiological performance of dismounted soldiers on reconnaissance duty at Army training ground, Mt Bunder, NT.***

The objective of this study was to identify the physiological effects of exercise on soldiers in tropical environments while undergoing normal military training. This was to be achieved through the collection and assimilation of information on the physiological performance, including assessments on the deterioration of cognitive functions, influence of work output by terrain and adequacy of some non-intrusive body temperature monitoring of male dismounted soldiers conducting routine reconnaissance training. Both the physiological and cognitive performance of soldiers undertaking routine patrol and reconnaissance activities in the tropics were investigated.

During both patrol and reconnaissance the soldiers experienced a degree of heat strain which did not reach levels considered hazardous by OH&S practitioners. Peak metabolic rates for individual soldiers during patrol were high, even though the weight of equipment carried was modest and the terrain not severe. In general, the soldiers were aware of the risks of dehydration and maintained adequate hydration levels during the trial. There was no evidence of significant deterioration in soldier cognitive performance during the trial. The IR tympanic temperature technique showed considerable promise as a surrogate measure of core temperature under the trial conditions. The study showed weak correlations between rectal temperature and insulated skin temperatures. The energy expenditure model coded into the CAEN battle simulation has been validated in a field environment by the use of GPS, heart rate and oxygen consumption data.

This research was published in a DSTO technical report titled 'The Physiological and Cognitive Performance of Fully Acclimatised Soldiers Conducting Routine Patrol and Reconnaissance Operations in the Tropics'.



## ***Protocol 116/96 - Comparative study of MRI diagnosis and operative findings/clinical outcome.***

The aim of this protocol was to evaluate the accuracy and specificity of MRI diagnosis with respect to different pathology and alternative imaging protocols and the identification of specific disease groups where specific protocols MRI have contributed significantly to patient management.

The data from this protocol has been used in 4 presentations, The role of Arthrography in Clinical Assessment of Chronic Lateral Ankle Pain Post Inversion Injury - an Initial Indication of Trends; MRI The Assessment of Sporting Injuries of the Knee; MRI of the Ankle Poster - To Assess the Diagnostic Role of MR Arthrography in Patients with Persistent Symptoms of Post Ankle Inversion Injury; MRI of the Knee Arthrography.

Conclusion from the ankle investigation of 40 patients, 24 male and 16 female, age range from 20 to 65, showed MR arthrography of the ankle to be a reliable technique on preliminary numbers with current trends indicating a sensitivity and a specificity of greater than 90%. Trends currently indicate a significant contribution of the MR arthrography component to definitive diagnosis of intra-articular abnormalities above that obtained by conventional MRI techniques.

This protocol showed that MR Arthrography of the ankle is an accurate technique in determining the need of arthroscopic/operative intervention, sensitivity 100%, specificity 93.5%, it is a reliable predictor of synovial impingement, sensitivity 100%, specificity 97.1% and it is a safe technique.

## ***Protocol 124/97 - Asthma follow up 6 RAAF Hospital.***

This project was undertaken by Associate Professor Geoffrey Quail to submit for a Master of Medicine, University of Melbourne. The study aimed to evaluate factors precipitating an asthma attack, the quality of care provided, as judged by the National Asthma Plan, and effects on the quality of life of members at RAAF Williams.

Asthma is a major cause of debility in the community, resulting in much time lost from work, many hospital admissions and a significant number of deaths in Australia each year. Despite the rigid criteria by which known asthmatics are excluded from the services and the regular medical assessment, the condition is responsible for a significant number of members being unfit for field deployment or having other employment restrictions. The project was designed to evaluate the quality of care provided at 6 RAAF Hospital, the morbidity, sick leave and hospitalisation, lung function, severity of asthma in the Defence Force and the impact of Asthma on work and other activities.

From the study, it was concluded that the treatment methods at 6 RAAF Hospital are in accordance with the recommendations of the Thoracic Society of Australia and New Zealand Asthma Management Plan 1996 and the asthma in the ADF is predominantly a mild disease. It was observed that the participating members were well educated in the use of their medication

and had a good understanding of their disease, through there was a deficiency in the understanding of the medications being prescribed and written Asthma management plans. A large number of patients reported a good working relationship with their doctor and benefit was seen from members attending the one doctor. These patients had a greater understanding of their disease and the management of it. A specialist opinion was obtained more frequently than in community studies. This may reflect the need for a higher standard of respiratory fitness in most military categories.

### ***Protocol 125/97 - Effects of three upper arm sphygmomanometer pressures on forearm and hand volume.***

Pain in the forearm and hand can be associated with repetitive manual activities of the upper limb. Our interest has focussed on vascular contributions to these pain syndromes. The purpose of this repeated-measures study was to investigate the effects of inflating an upper arm sphygmomanometer around the upper arm, on forearm and hand volume. The aim was to establish a safe, easily applied method of inducing a transitory increase in forearm and hand volume as a symptom provocation test for upper limb conditions. We hypothesised that an upper arm sphygmomanometer, inflated for 4 minutes to a level approximating a subject's diastolic blood pressure, would induce a) significantly different levels of increased forearm and hand volume; and b) different symptom intensities within the forearm and hand.

Using the principles of venous occlusion plethysmography, movement of blood volume into the forearm and hand of asymptomatic subjects was measured after occlusion with the arm cuff at 3 pressures. Increases of between 37 and 62ml (2.5% and 4.1%) were achieved at pressures of; 30mmHg below, 15 mmHg below, and 5mmHg above subjects' diastolic pressures. Subjects reported minimal side effects, and reported higher intensity of symptoms on a 0-10 pain scale during the higher cuff pressures. These data demonstrated that a sphygmomanometer can be safely used to induce transitory fluid congestion of the forearm and hand. This method has the potential to be used for investigations into whether painful conditions of the forearm and hand are associated with vascular-induced changes in forearm and hand volume.

This research was published as: Boland RA, Adams RD: Sphygmomanometer-Induced Increases in Forearm and Hand Volume. *Journal of Hand Therapy*, 12:275-283, 1999.

### ***Protocol 154/98 - The effects of hypoxia in healthy human subjects with respect to: 1) Serotonin levels in serum and headache/ subjective dysphoria, 2) Liver function tests.***

This study was reported in two dissertations.

The dissertation titled 'The effects of hypoxia on liver function: a study in healthy human subjects exposed to reduced inspired oxygen' tested the hypothesis that mild hypoxia would produce mild changes in liver function tests in healthy volunteers. 10 aircrew members were exposed to a simulated altitude of 15,000 ft. The subjects were venesected immediately before and from 20 to 40 minutes after the cessation of the hypoxia. In each measured parameter there

was no significant difference between the pre and post values for the liver function tests. This report concluded that there is no detectable acute liver effect of mild hypoxia in normal volunteers, supporting the theory that hypoxic hepatitis is predominantly a result of ischaemia rather than hypoxia per se, and that there is no evidence of liver damage as a result of hypoxia experienced by aircrew.

The second component of this study was designed to determine whether serum serotonin levels are altered by hypobaric hypoxia and whether any detectable change correlated with an ensuing headache, and was discussed in the dissertation 'The Effects of a Short Exposure to Hypobaric Hypoxia on Serum Serotonin (5-Hydroxytryptamine) Levels in a Small Sample of RAAF Aircrew and its Possible Relevance to Post-Decompression Headache'. This study analysed the serum serotonin concentration in 10 healthy RAAF aircrew, before and after exposure to a 30 minute hypoxic decompression run at 15,000 feet. Serum sugar levels were also estimated. The study found no significant change in serum serotonin levels after the hypoxic exposure in the 10 subjects. There was no detectable change in serum glucose to suggest glucose had any influence on these findings. 3 of the 10 aircrew developed headaches within 24 hours of the decompression run, 2 of these aircrew experienced mild headache within 12 hours of the decompression run and both demonstrated post-decompression rises in serum serotonin levels. Only 1 of the 3 aircrew who appeared to have a history suggestive of migraine experienced a post-decompression headache. This dissertation concluded that it appeared that a short period of simulated hypobaric hypoxia to 15,000 ft does not cause any detectable alteration in serum serotonin levels and that the findings of elevated serum serotonin levels in the only two aircrew who developed post-decompression headache within 12 hours of hypoxic exposure may be very significant and suggests that further larger studies are necessary to determine if a pathophysiological association exists.

### ***Protocol 155/98 - Laboratory studies on the effects of thermal strain on cognition.***

Hot and humid conditions are known to cause debilitating effects on soldiers deployed to northern regions of Australia, with the consequence that the effectiveness and efficiency of the operations were severely compromised. While the adverse effects of thermal stress on soldiers' physiological capability are well established, this has not been confirmed for cognitive performance. This impact of thermal strain on cognition has now been studied using psychometric testing and functional brain electrical activity imaging to investigate the impact of thermal stress on cognitive performance.

The aim of this project was to develop and validate techniques to measure cognitive performance in simulated field conditions. The prime objective of the study was the examination of the validity of functional brain mapping technique for the assessment of cognitive performance of soldiers exercising in controlled tropical climates.

The brain electrical activity of subjects was measured while undertaking a range of cognitive tasks. Steady State Probe Topography (SSPT), a novel brain imaging technology, was employed to monitor the changes in regional brain activity and neural processing speed of subjects under



thermal stress. The psychometric tests batteries, developed by the Brain Sciences Institute (BSI), were made up of the Rey auditory-verbal learning test, the inspection time, the digit span test the spatial working memory task and the AX-continuous performance task.

The functional brain imaging provides topographical information, which shows changes of electrical activity in response to thermal stress during cognitive task performance. The changes in brain electrical activity and neural speed induced by thermal stress will help to identify the type of cognitive functions that are likely to be impaired.

Results indicated that subjects experienced increasing cardiovascular strain through thermally neutral to thermally straining conditions. The heat strain imposed on the subjects was substantial as indicated by the increase in their mean core temperature under thermally straining conditions. The psychometric test batteries, however, showed no significant performance decrements even under the most strenuous condition. Some deficits in working memory, in information retention and processing were noted but overall, behavioural changes that were reflective of the higher level of thermal strain were not observed.

In contrast, there were marked differences in the electrical responses of the brain when subjects were thermally strained. The Steady State Visual Evoked Potential (SSVEP) recordings showed an increase in amplitude and a decrease in latency, suggesting an increase in the utilisation of neural resources or effort by subjects to maintain the same level of performance under thermally neutral conditions. It appears that the brain imaging technology is potentially a valuable tool for examining the empirical relationships that complements and goes beyond conventional measures of behavioural responses.

### *Protocol 157/98 - BCG vaccine adverse events: a prospective study.*

This was a prospective national study of adverse reactions following BCG vaccination, carried out in Australia, in response to retrospective data from one region suggesting that an increase in reactions had occurred following introduction of a new vaccine strain. Among 918 subjects (aged 1 day to 54 years) over a 14-month period, 45 vaccinees (5%) reported 53 adverse reactions. Most reactions were mild and self-limiting: 23 injection site abscesses, 14 severe local reactions, 10 lymphadenitis, 6 other. Only 1% of vaccinees required medical intervention. Reactions, particularly lymphadenitis, were significantly less common in infants less than 6 months old vaccinated by trained providers (RR 0.24, 95%CI 0.09-0.68). Injection site abscesses (RR 2.96, 95%CI 1.11-7.90) and severe local reactions (RR 4.93, 95%CI 1.11-21.90) were significantly more common in older vaccinees. Adverse reactions were not significantly associated with any currently available vaccine batch, previous receipt of BCG vaccine or concomitant administration of other vaccines. Few large prospective studies of BCG adverse reactions are available. Although the previous vaccine was no longer available for comparison, data from this study established that the reactogenicity of the BCG strain now in use was within expected limits and were able to refute subsequent claims of excessive reactogenicity which attracted considerable media attention in Australia.

Findings are to be published in the *Clinical Infectious Diseases Journal*, titled 'A National Study of Adverse Reactions following BCG Vaccination'.



## ***Protocol 159/98 - Self-reported health status and presentations to a sickbay onboard a Royal Australian Navy warship associated with going to sea.***

This project aimed to examine the health status and psychological well-being of individuals in a ship-borne population. There have previously been no self-reported health surveys conducted specific to the RAN's ship-borne population.

The study examined the self-perceived health status of individuals in a RAN sea-going population, specifically self-reported mental health was measured. The rationale for examining mental wellbeing is that members posted to a sea-going unit must first be deemed "fit for sea", which relatively guarantees a physical fitness but not necessarily psychological fitness. It is argued that psychological symptoms in occupational settings may not be volunteered, be transient or go undetected and untreated.

63 members, using a cross-sectional survey design with longitudinal follow-up completed the General Health Questionnaire (GHQ) 30-item version and an own generated "Naval Health Survey" (NHS). Paired data was generated from the surveys completed three weeks apart. Questionnaires were scored in Likert, GHQ and *cGHQ* modes.

Considered as a screening instrument, the GHQ scored in *GHQ* mode yielded psychiatric caseness rising from 38% to 44%, in the sample of 63 persons, over the study period. Formal psychological/psychiatric presentations to the sickbay represented less than 1% of all presentations.

Despite not meeting statistical significance (at the 0.05 level) elevations of GHQ and NHS scores for the sample were noted over the study period suggesting a decrement in mental wellbeing. A subgroup analysis showed important differences, namely that there are differences in self-perceived health status amongst sea-going naval personnel over a period of time at sea and that the direction and magnitude of change in this precept varies between subgroups characterised by rank and rate. Marine technical sailors recorded a fall in scores suggesting improved psychological wellbeing. In contrast, commissioned officers and combat system operator sailors recorded statistically significant increases in scores and thus deterioration in mental health.

The final paper discusses the basis for measuring self-reported psychological wellbeing, the possible reasons for and implications of the findings, and a discussion of biases, confounders and limitations. The study has limited generalizability but provides a substantial inroad for further studies to explore the mental health effects of working and living in the sea-going naval military environment.



## ***Protocol 160/98 - Investigating pre- and post-work cooling strategies for reducing thermal strain and increasing work performance under tropical heat stress conditions.***

The combined effects of climate, protective clothing and physical activity can exert substantial heat stress on personnel, reducing the intensity and/or duration of physical activity that is sustainable. Physical exertion raises the body's core temperature ( $T_c$ ). Hence exertional hyperthermia is a significant health issue for the ADF because it hastens dehydration and can cause work intolerance, heat exhaustion, cognitive deterioration, or heat stroke. Cooling a person before physical exertion (ie. pre-cooling) or during rest cycles has been shown to reduce physiological strain and enhance endurance performance, particularly in the heat.

This project was reported on in two parts: 'The effects of pre-cooling, with and without leg cooling, on performance and strain during high intensity and endurance exercise in the heat' and 'The effectiveness of an ice vest or intravenous administration of fluid on recovery from high heat strain'.

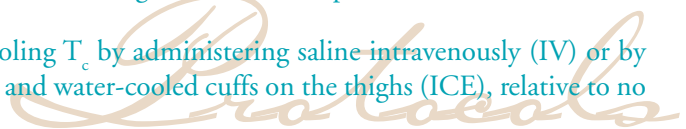
***Pre-Cooling:*** Using nine healthy males as voluntary subjects, we examined the effect (relative to no intervention) of pre-cooling by ice vest plus cold air, with and without leg cooling, on muscle power output, endurance performance, physiological function and perceived strain during exercise in the heat (35°C, 60% rh). We further examined whether the effect of pre-cooling on strength and power, if any, was dependent on the use of a warm-up (n=6 males).

It was found that this method of pre-cooling effectively reduced physiological and psychophysical strain such that endurance performance was significantly improved in moderately-humid heat. It was also suggested that cooling garments should not be used on the limbs to be worked if there is a requirement for significant anaerobic work to be performed. In summary, pre-cooling of the torso was just as effective as pre-cooling the torso+legs in attenuating strain and improving endurance performance in the heat, without the impairment caused by the latter on anaerobic performance.

It is recommended, therefore, that field trials should be conducted to determine the operational effectiveness of pre-cooling by ice-vest and cold air. Relevant operations are those involving high work-loads with high climatic or clothing-related heat stress. Further work is also required to address effects of cooling on tissue function.

***Post-Cooling:*** In consideration of the above mentioned factors that contribute to raising core temperature and possible subsequent hyperthermia, the ADF is faced with a significant health issue. Therefore, a rapid reduction of  $T_c$  may be beneficial for improving the ratio of work:rest time that limits work performance in the tropics, and may also improve the prognosis of heat stroke. Therefore, identification of a method that hastens body cooling would be useful for both operational effectiveness and medical management in the tropics.

We examined the effectiveness of cooling  $T_c$  by administering saline intravenously (IV) or by donning of an ice jacket on the torso and water-cooled cuffs on the thighs (ICE), relative to no intervention (CON).

A stylized, handwritten-style logo in a reddish-brown color, featuring the word "Palatal" in a cursive font.

Neither ICE nor IV hastened the recovery of  $T_{ce}$ , as calculated from rectal or combined (averaged) indices. However, the oesophageal index showed faster recovery in ICE. The present results demonstrate that assessment of the rate of recovery from clinical hyperthermia depends on the measurement site of core temperature. The lack of a clear benefit of an ice vest or administration of fluid intravenously on recovery from mild hyperthermia should not be used as a basis for not attempting to hasten core cooling from hyperthermia in the ADF. It is suggested, on the basis of physiological considerations, that

- ICE may be more beneficial than is indicated by the present data for improving work performance or assisting the heat-exhausted individual, because a lower mean body temperature from ICE would help delay and attenuate the rise in the temperature of vital organs during subsequent work episodes, and
- IV may be more appropriate in the treatment of heat stroke, particularly if it were chilled and infused rapidly. That is, the disturbed thermoregulatory control seen in heat stroke may render ICE inadequate because it could potentially inhibit thermolysis by sweating and skin blood flow.

It is recommended that further experiments be performed to evaluate cooling techniques applied to higher initial  $T_{ce}$ s.

### ***Protocol 166/98 - Evaluation of the insect repellents deet and AI3-37220 against human biting mosquitoes (generic protocol).***

The aim of this study was to compare the repellents deet and AI3-37220 as protectants on human skin against biting mosquitoes, with a goal to identify improved formulations of repellents to replace the current ADF personal repellent. As well as comparing the effectiveness of the repellents, the protocol was also designed to monitor for any adverse events associated with repellent use. Previous studies have shown that the behavioural response of mosquitoes to deet and other repellents is variable. Laboratory studies have shown the protection provided by repellents against biting mosquitoes is dependent on mosquito density.

The study was undertaken in a village in Central Province, Papua New Guinea. Both 25% AI3-37220 in ethanol and a formulation containing 35% deet in a gel provided greater than 95% protection for only 2 hours. A formulation of 25% deet in ethanol provided only 93% protection 1 hour after repellent application and 39% protection after 5 hours after application.

The paper resulting from this project has been published in the Journal of the American Mosquito Control Association and is entitled “Field Evaluation of Repellents Containing deet and AI3-37220 Against *Anopheles koliensis* in Papua New Guinea”, authors are S.P. Frances, R.D. Cooper, S. Popat and N.W. Beebe.

### ***Protocol 189/99 - The Naval Anthropometric Project.***

The aim of this project was to provide the RAN with a structured anthropometric overview of the shape of people entering/currently serving in the Navy. This project would also provide a baseline on which future anthropometric projects can be built. Increasing the knowledge of the shape of people in the Navy will assist in improving the human interface effectiveness of naval

equipment and systems by providing acquisition, certification and design organisations with a body of structured anthropometric data on which to help formulate decisions.

The specific and potential significance of the anthropometric project include increased probability of accepting into service equipment/systems which can be most effectively used by the operator and rejecting poor designed equipment/systems; increased probability of fitting ships winning in combat through increasing the performance of the human/ship interface, and increased probability of reducing occupational Health and Safety related accidents and associated costs.

This project was sponsored by Director General, Naval Material Requirements Branch and was conducted by the Navy Human factors group and RMIT University. A total of 302 personnel participated in the study, 251 male and 51 female. The percentage of females measured is consistent with the number of females in the navy, which is approximately 10%-15%. The findings were recorded in a final report to the Australian Defence Force.

### ***Protocol 203/99 - Rest cycles for military personnel during routine operations in IPE.***

The Combatant Protection and Nutrition Branch of DSTO was approached by the Joint Incident Response Unit (JIRU) for advice on work:rest cycles for personnel wearing the Butyl CB (TEC) suit and the blast-protective (SRS-5) ensemble for operations in support of the Sydney Olympics.

Two courses of action were taken. First, the insulation of the materials to dry heat transfer was determined, for input to the USARIEM model in predicting core temperature responses at selected work intensities. Second, heat-related strain was measured in two JIRU soldiers throughout SOPs in TEC and SRS-5 suits. The SOPs were determined by those personnel, and the climatic conditions (WBGT=24-24.5°C) were intended to simulate daily maximum conditions in Brisbane during October.

Soldier's heat production was low ( $< 4 \text{ W}\cdot\text{kg}^{-1}$ ) during simulated SOPs: walking with 10 kg load, detection using CAM, and sweeping. However, soldiers perceived themselves to be very hot and very uncomfortable in the TEC suit. This was attributed mainly to skin warmth and wettedness, since core temperature remained below 38.2°C across three consecutive work bouts. Duration of the bouts was limited by the capacity of the Self-Contained Breathing Apparatus (SCBA) to 25-30 min each. The ice water system that is used in the SRS-5 kept both perceived and actual heat-related strain low during bomb search operations. It was found that this cooling system could also be used within the TEC suit, and this virtually eliminated soldier's perceived heat strain during work bouts.

Under the climatic and work conditions used here, the current guidelines on work:rest cycles in protective clothing seem appropriate, yet work duration appears to be limited by SCBA capacity more than by heat stress - especially when the undergarment cooling system of the SRS-5 is used in the TEC suit. The cooling system is recommended if multiple work bouts are envisaged, work is prolonged by supplying air from an external source, the day is hot (eg.  $T_a > 30^\circ\text{C}$ ), the work to be done is more arduous than the work done in these trials, and/or the operator's work or heat tolerance is potentially limited by previous physical activity, poor fitness, dehydration or recent illness.

## ***Protocol 210/00 - Study of the effects of acute supplementation with creatine on military physical performance.***

This study aimed to determine the effects of acute oral supplementation with creatine on military physical performance. A total of 38 subjects underwent anthropometric analyses and a series of fitness tests. High-intensity activities were chosen because creatine supplementation has been postulated to enhance performance of short-duration. A 5km walk/run was conducted to determine if the weight gain usually associated with creatine supplementation adversely affected endurance. Subjects were then given creatine or a placebo over the following five days. On completion of the five-day loading, the anthropometric measurements and fitness testing were repeated.

Analysis of the results indicated no significant difference in anthropometric or fitness test results between treatments. It was concluded that methodological problems associated with the study prevented any treatment effect (if one indeed occurred) being demonstrated. A further study is recommended.

## ***Protocol 212/00 - Impact of service separation on family life in the ADF in Townsville.***

The findings of this research are to be published as a chapter in the book 'Military Stress and Performance: the Experience of the Australian Defence Force'. The paper reports on research conducted with families and support staff of the Defence community in Townsville. Townsville is a strategically important location in meeting the Department of Defence's operational goals. The Rapid Deployment Force (RDF) plays a significant role in providing a highly operational combat-ready Defence Force. The highly operational nature of the ADF's deployed role in Townsville places additional stress and demands on the member and his/her family. Members are frequently away from home. Families in Townsville have extra demands and stresses placed on them. Military requirements are exacerbated by the lack of extended family support systems, geographical remoteness from specialised educational and medical resources, social isolation, severe climatic conditions and limited spouse employment and career opportunities. Many members are young with young partners and young children. Families often find themselves feeling isolated, lonely and sole parenting.

The aim of this project was to examine the hypothesis 'The more frequent and lengthy the periods of separation the greater the negative impact on the families. The impact also reflects an "accumulative" effect for families when separations continue to occur over a long periods of time' with the purpose of gaining a better understanding of the dynamics of service separation from the perspective of the family, assessing the adequacy of supports available to the family with Defence support staff and to identify the resources required to enhance the families' stability during operational duties. The findings will provide policy makers with valuable information in identifying appropriate infrastructure of support to ADF families and raising awareness of particular issues facing the families in location.

The research highlighted that the already heavy demands placed on members in highly operational and specialised units, coinciding at a time of economic reform is severely impacting

on the members and their families within the Townsville region. With the increasing uncertainty and political instability in the Asian and Pacific region and the already heavy demands on Defence Personnel, there is a need to develop a strong collaborative partnership and sharing of responsibility between the Department of Defence and the wider Defence community in supporting the needs of the Defence families. The introduction of a coordinated and integrated military and welfare response is essential in providing stability for the families during service separations. The need to assist in the provision of family stability during service separations is vitally important if we are to retain our members.

### *Protocol Status as at 30 June 2001*

The status of all ADHREC Protocols as at 30 June 2001 is tabulated below. A total of 270 protocols are listed with ADHREC, ninety-two are currently in progress and ten are pending further action from the researcher before ethical approval to undertake the research is granted.

STATUS	2000	2001	TOTAL TO END JUN 2001	ACTIVE	INACTIVE
Approval Withdrawn			6		6
Completed	2		72		72
File Missing			1		1
Finalised	3	1	58		58
In Progress	25	15	77	77	
Not Approved		1	15		15
Not Submitted			1		1
Pending	5	4	10	10	
Withdrawn	2	3	25		25
New Protocol		5	5	5	
<b>TOTAL</b>	<b>37</b>	<b>29</b>	<b>270</b>	<b>92</b>	<b>178</b>

### *Activities and Initiatives*

**Increased number of meetings.** There has been a significant increase in the amount of research undertaken in Defence using ADF personnel in recent times and many more inquiries about ADHREC and its activities over the last year. To accommodate increased participation in Defence research and to be more responsive to researchers, ADHREC met five times in 2000, and three times till Jun 30 in 2001.

**Name Change.** The change of name of the Australian Defence Organisation's (ADO) Human Research Ethics Committee from ADMEC to ADHREC was first raised in mid 2000. The name change occurred in June 2001 after approval from the Minister of Defence. The name

change was initiated to more accurately reflect ADHREC's current role, in line with the National Health and Medical Research Council (NHMRC) Guidelines. Renaming ADMEC as ADHREC was to:

- a. ensure the Committee is named consistently with the nationally accepted nomenclature;
- b. reinforce the scope of the Committee's charter with regard to human factors in research, such research not being confined to just medical projects;
- c. reinforce the scope of the Committee's charter with regard to its review of any research involving humans, be it direct or indirect; and
- d. reflect more accurately the work of the Committee.

**Draft of a new Australian Defence Force Publication - ADFP 733 - Health and Human Performance Research in the Australian Defence Organisation.** In response to the need to appropriately manage Health and Human Performance research within the Australian Defence Organisation, the Defence Health and Human Performance Research Committee (DHHPRC) was developed to oversee and manage this body of research. The DHHPRC, through the development and publication of the annual Health and Human Performance Research Master Plan, identifies and prioritises the areas of health and human performance of greatest concern to the ADF in achieving its strategic goals.

Together, ADHREC and the DHHPRC coordinate and monitor aspects of health and human performance research in the Australian Defence Organisation. All health and human performance research requires endorsement from the DHHPRC prior to being considered for approval by ADHREC. The functioning of both committees occurs hand in hand, and as such, an ADFP detailing the role and function of both committees is being drafted. The component on the role and function of ADHREC has been taken from the ADHREC Researcher's Guidelines that was drafted during 1999 and 2000.

The ADFP details what is expected of researchers when submitting protocols for endorsement from DHHPRC, ethical approval from ADHREC, or both. The ADFP provides guidance on when to seek ADHREC approval, detailing the scope of ADHREC's charter. This ADFP is due for publication in late 2001.

**Audit of research.** In 1999, the Committee decided to conduct audits of researchers' files and practices as an additional means of facilitating and improving ADHREC's monitoring of Defence research.

During 2000/2001, the ADHREC Secretariat conducted two audits of ADHREC approved research protocols. These audits were undertaken to assess the following areas of research compliance:

- Currency of progress reports.
- Security of documents.





- Consent forms - using approved forms, signed by all volunteers.
- Nominal Role (if required).
- Date of first data collection - within one year of ADHREC approval.
- Protocol Variations - ensure that any protocol variations have been approved by ADHREC.
- Serious Adverse Event reporting.
- Any other concerns (of the researcher/s).
- Any withdrawal by participants.
- Contact details of the researcher/s.

From these audits, a number of issues were identified:

1. Use of non-approved version of the consent form

The action taken by the researcher to rectify this error:

- a. Publication of protocols, including consent forms, with version numbers that are reconciled prior to use.
- b. Research personnel undergo training in Good Clinical Practice (GCP) standards.
- c. Publish model of ethical Good Clinical Practice Standards.

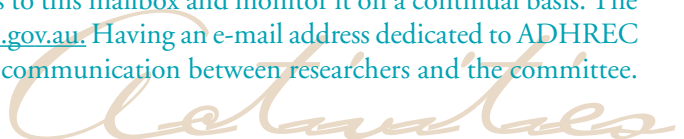
2. Unsigned consent forms

The action taken by the researcher to rectify this error:

- a. To exclude the data collected from the subjects for whom they did not have a signed consent form.

The use of audits to monitor ADHREC approved research has proven to be most beneficial in clarifying with researchers what is required of them as part of ADHREC approval. ADHREC will continue to conduct audits of approved research as standard monitoring procedure, ensuring the continued compliance of Defence research with the NHMRC guidelines.

**E-mail address.** In-line with ADHREC's name change, ADHREC now has a new e-mail address. ADHREC secretariat staff have access to this mailbox and monitor it on a continual basis. The e-mail address is: [ADHREC@defence.gov.au](mailto:ADHREC@defence.gov.au). Having an e-mail address dedicated to ADHREC will generate greater efficiency in the communication between researchers and the committee.





**Participation in AHEC workshops.** This year, ADHREC committee members and executive had the opportunity to attend and participate in workshops run by the Australian Health Ethics Committee (AHEC). The workshops attended were *Clinical Trials* and *Research in the Humanities and Social Sciences*. These workshops were a great opportunity for ADHREC members and executive staff to increase their awareness and exposure to current ethical issues as well as gaining a greater comprehension of the responsibilities of a Human Research Ethics Committee (HREC). Attendance at these workshops provided a forum to meet members and executive staff of other HREC's within the local region. Participation in workshops of this kind improves understanding of the National Statement, affording an additional platform from which ADHREC can further develop best ethical-review practices. ADHREC actively strives to continually improve compliance with the National Statement to ensure that best-practice ethics are an integral part of any Service-based research.

## **Major Researchers in Defence**

Major researchers within Defence who have had protocols considered by ADHREC include:

- **Army Malaria Institute (AMI)**

- Areas of research include prevention and treatment of vector borne disease through pharmacological agents (eg. medications - both vaccines and oral medicines, and insect repellents) or physical means (eg. bed nets, protective clothing).

- **Submarine and Underwater Medicine Unit (SUMU)**

- Areas of research include prevention and treatment of decompression illness (the 'bends'), evaluation of equipment and validity of diving tables.

- **Royal Australian Air Force Institute of Aviation Medicine (RAAF AVMED)**

- Both AVMED and individuals with an interest in Aviation Medicine have studied various effects of hypoxia (diminished availability of oxygen to body tissues) and gravitational forces (+Gz) on aircrew, their physiology and performance.

- **Defence Science and Technology Organisation (DSTO)**

- Various departments within DSTO have been researching the physiological responses of soldiers under different climatic and work conditions, evaluating equipment for use in the field and investigating options for optimum nutrition of soldiers.
- During 2000, DSTO created a new Land FRAC (Force Research Area Capabilities), L12 - Health and Human Performance. The scope of this FRAC is:  
*The physical, cognitive and emotional functioning of ADF personnel, both individually and in groups, interaction with the environment, the interface with weapons, platforms and other systems, where the focus is on the human, and their health. This FRAC deals with that research which focuses primarily on the human, addressing the continuum of human capability, from the dysfunctional (human illness) to the optimal.*

The creation of this FRAC will centralise the management of health and human performance research throughout DSTO, enabling better uniformity of health and human performance research across the three services.

- The research area within DSTO that most frequently deals with ADHREC is the Combatant Protection and Nutrition Branch (CPNB). CPNB is a branch of the Aeronautical and Maritime Research Laboratory (AMRL). CPNB provides scientific support to enhance the performance of ADF personnel operating in hazardous and demanding environments. In particular, CPNB undertakes work in the area of soldier nutrition, combatant protection and protection from nuclear, biological and chemical threats.

• **Psychology Research Group (PRG) and the Directorate of Strategic Personnel Planning and Research (DSPPR)**

- PRG's main tasks comprise the assessment of the human factors of the ADO, the development of selection techniques, eg: psychometric or aptitude tests, and the evaluation of the utility and validity of psychological tests. PRG also acts as a consultant to other areas of the ADO on matters of selection, training and retention of staff.
- DSPPR provides the Defence Organisation with a consolidated personnel research capability to support strategic work force planning and strategic personnel planning. DSPPR also provides advice and assistance in relation to the evaluation of personnel management policies and practices.

The majority of other researchers have been individuals completing Masters theses or Doctoral dissertations, practicing clinicians or epidemiologists with a special interest in the area researched. All research involving ADF personnel, as either researchers or subjects, that is brought forward for consideration by ADHREC must have some benefit to the ADF. The development and management of the Defence Health and Human Performance Master Plan makes this benefit more transparent.



ADHREC does not generally give retrospective approval. The Committee is also reluctant to allow ADF personnel to participate in the collection of safety data for new drugs (pharmaceuticals) or in drug trials where there is no clear benefit to the individual or the ADF. The Committee also does not approve protocols that have an inadequate study design and would not produce scientifically valid results, or projects that are likely to have adverse outcomes to the volunteers or their military careers. Similarly, where a researcher requests access to records maintained by the ADF (eg. medical documents), ADHREC pays particular attention to the Section 95 Guidelines of the Privacy Act 1988. If ADHREC determines that the benefit of the research does not outweigh privacy considerations, then the protocol will not be approved.

ADHREC is particularly conscious of the direct correlation between the request of participation in research and the volunteers' employment. Australian Defence Force personnel are in a unique position of receiving and following orders and as such they can be considered a captive audience. ADHREC is very sensitive to the relationship and importance of the functioning of the commanding officer, and the responsibilities associated with both duty and command.

ADHREC does not consider operationally dictated research or research being undertaken as health surveillance. Research undertaken in the Military context is often undertaken in line with the responsibilities associated with duty of care of commanders for their personnel.

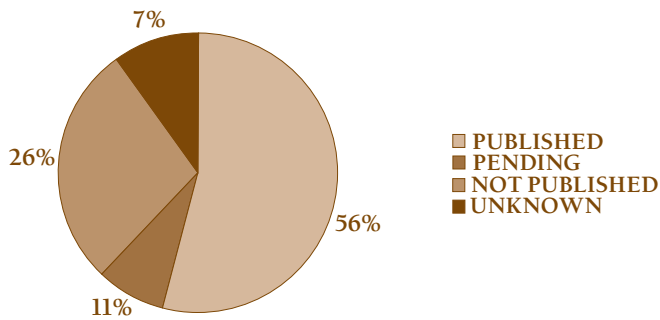
In the current climate of out-sourcing, ADHREC has considered research that has been out-sourced, and the ethical acceptability of access to records by external parties. The ethical issues associated with any research been undertaken by external organisations are considered on a case by case basis. In a research protocol considered this year, ADHREC granted approval on the condition that there were specific clauses in the contract between Defence and an external research organisation, stipulating that information collected through accessing Commonwealth (Defence) records is in strict compliance with the Privacy Act.

*Protocols*

## Publication of Completed Research

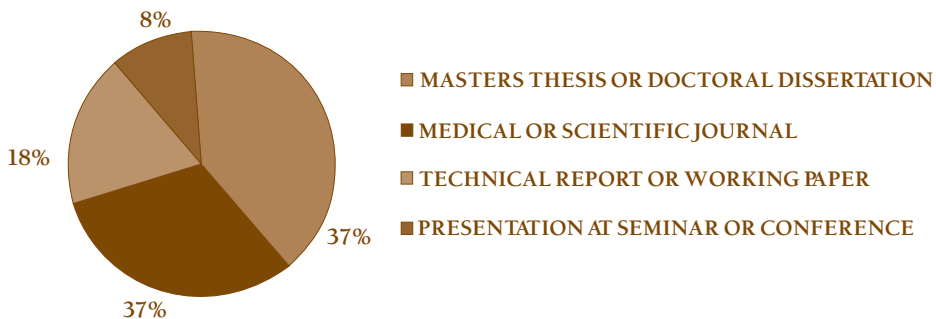
It is a condition of ADHREC approval that the researchers intend to publish the results in an accessible medium, except where security implications prevent this. Research can be published in a number of formats: as a Masters thesis or Doctoral dissertation, in various medical and scientific journals, in technical reports, or as part of a presentation or poster at a seminar or conference. The graph below represents the proportions of completed research projects that have been published. Of the protocols registered with ADHREC that have been completed, 67% have been published or are in the process of being published.

### Publication Status of Completed Protocols



The next graph provides a break down of the media in which this research has been published.

### Publication Media of Completed ADHREC Protocols



Journals in which ADHREC cleared research has been published include, but are not limited to, the following:

- Australian and New Zealand Journal of Surgery
- Aviation, Space and Environmental Medicine Journal
- Journal of Applied Physiology
- Journal of Clinical Infectious Diseases
- Journal of Medical Entomology
- Medical Journal of Australia
- Military Medicine (USA)

*New Research Protocols recieved and considered by  
ADHREC from Jan 2000 - Jun 2001*

<b>Protocol number</b>	<b>Research Title</b>	<b>Status</b>
205/00	INTRINSIC RISK FACTORS FOR MEDIAL TIBIAL STRESS SYNDROME: A PROSPECTIVE STUDY	IN PROGRESS
206/00	TARGET CONTROLLED INFUSIONS FOR FIELD ANAESTHESIA	IN PROGRESS
207/00	PREGNANCY OUTCOME IN ACTIVE DUTY ADF SERVICE WOMEN	PENDING
208/00	GULF WAR VETERANS HEALTH STUDY	IN PROGRESS
209/00	NON MELANOMA SKIN CANCER RATES IN THE REGULAR AUSTRALIAN ARMY	IN PROGRESS
210/00	STUDY OF THE EFFECTS OF ACUTE SUPPLEMENTATION WITH CREATINE ON MILITARY PHYSICAL PERFORMANCE	COMPLETED
211/00	DEVELOPMENT OF STRAIN-SPECIFIC HUMORAL IMMUNE RESPONSES TO FALCIPARUM MALARIA IN ADF PERSONNEL	PENDING
212/00	IMPACT OF SERVICE SEPARATION ON FAMILY LIFE IN THE ADF IN TOWNSVILLE	COMPLETED
213/00	SAFETY AND IMMUNOGENICITY OF TWO LIVE-ATTENUATED TETRAVALENT DENGUE VACCINE FORMULATIONS IN HEALTHY AUSTRALIAN ADULTS	IN PROGRESS
214/00	MEASURING SLEEP-WAKE CYCLE AND LEVELS OF ALERTNESS AMONGST SUBMARINE PERSONNEL DURING EXERCISE LUNGFISH 2000	IN PROGRESS
215/00	REVIEW AND EVALUATION: CLEARANCE DIVERS TASKS AND PHYSICAL ASSESSMENTS	FINALISED

Protocol number	Research Title	Status
216/00	A RANDOMISED, DOUBLE-BLIND, COMPARATIVE STUDY TO EVALUATE THE SAFETY, TOLERABILITY AND EFFECTIVENESS OF TAFENOQUINE AND MEFLOQUINE FOR THE PROPHYLAXIS OF MALARIA IN NON-IMMUNE AUSTRALIAN SOLDIERS DEPLOYED TO EAST TIMOR	IN PROGRESS
217/00	INVESTIGATION OF A METHOD OF ASSESSING THE PERFORMANCE OF LOAD CARRYING EQUIPMENT IN THE AUSTRALIAN ARMY	IN PROGRESS
218/00	AN INVESTIGATION OF INSECURE ATTACHMENT STYLE AS A RISK FACTOR FOR THE DEVELOPMENT OF POST TRAUMATIC STRESS DISORDER IN MILITARY PERSONNEL INVOLVED IN PEACEKEEPING DUTIES	IN PROGRESS
219/00	THE ROLE OF THE MILITARY NURSE ON OPERATIONAL SERVICE	IN PROGRESS
220/00	INJURY PREVENTION IN RAAF FIGHTER PILOTS: A NECK STRENGTHENING PROGRAM FOR HIGH PERFORMANCE PILOTS	IN PROGRESS
221/00	AN ASSESSMENT OF THE EFFECTS OF PROTECTIVE ENSEMBLES AND COOLING GARMENTS ON HEAT-RELATED STRAIN DURING WORK	IN PROGRESS
222/00	EFFECTS OF VENOUS DRAINAGE ON INDUCED SYMPTOMS DURING THE VOLUME PROVOCATION TEST	IN PROGRESS
223/00	BODY MASS INDEX (BMI) OF AUSTRALIAN ARMY RESERVISTS AND THE AUSTRALIAN POPULATION - IS THERE A DIFFERENCE?	IN PROGRESS
224/00	HEAT STRESS TESTING ON F-111 FUEL TANK MAINTENANCE PERSONNEL	IN PROGRESS
225/00	PREDICTING SYMPTOMATIC DISTRESS IN THE AUSTRALIAN DEFENCE FORCE AN ADF POST DEPLOYMENT ADJUSTMENT SCREEN	PENDING

Protocol number	Research Title	Status
226/00	DETECTION OF STRONGYLOIDES SPECIFIC ANTIBODIES TO DETERMINE EXPOSURE TO STRONGYLOIDES INFECTIONS, VIA THE ENZYME LINKED IMMUNOSORBENT ASSAY	PENDING
227/00	EVALUATION OF THE JAPANESE ENCEPHALITIS VACCINE - EFFECTIVENESS AND EFFICIENCY OF INTRADERMAL BOOSTING	IN PROGRESS
228/00	1st BRIGADE MEDICAL EMPLOYMENT CLASSIFICATION STUDY	IN PROGRESS
229/00	THE USE OF PORTABLE ULTRASOUND IN THE ASSESSMENT OF TRAUMA IN ADF MEDICAL UNITS	FINALISED
230/00	TO INVESTIGATE THE REASONS FOR THE LOW SUICIDE RATES IN THE ADF AND TO DETERMINE IF THESE RATES CAN BE FURTHER REDUCED	WITHDRAWN
231/00	PREPARING SOLDIERS FOR HUMID HEAT: THE EFFECTIVENESS OF HEAT ACCLIMATION PROTOCOL DURATION AND HYDRATION STATUS	IN PROGRESS
232/00	EVALUATION OF A NEW LOW PROFILE MOSQUITO BEDNET FOR PATROLLING TROOPS	IN PROGRESS
233/00	THE SEPARATION EXPERIENCES OF AUSTRALIAN MILITARY FAMILIES DURING OVERSEAS DEPLOYMENT TO EAST TIMOR	IN PROGRESS
234/00	TO INVESTIGATE THE RELATIONSHIP BETWEEN THE TASKS AND REQUIREMENTS OF THE USER WHILST USING MISSION AND SURVIVAL EQUIPMENT	IN PROGRESS
235/00	SOCIAL SUPPORT AS A MEDIATOR OF POST NATAL STRESS / DEPRESSION IN DEFENCE SPOUSES	IN PROGRESS
236/00	HYPOXIA AND AUDITORY FUNCTION	IN PROGRESS
237/00	THE EFFECT OF CHEWING CAFFEINE GUM ON EXERCISE TIME TO EXHAUSTION AND MAXIMAL OXYGEN UPTAKE	WITHDRAWN



Protocol number	Research Title	Status
238/00	INCIDENTS OF INFECTIONS AROUND PARTIALLY ERUPTED THIRD MOLARS (WISDOM TEETH) IN SOLDIERS	PENDING
239/00	TO EXAMINE GENDER AND PHYSICAL TRAINING EFFECTS ON SOLDIER PHYSICAL COMPETENCIES AND STRAIN	IN PROGRESS
240/00	CLEARANCE DIVER AND DIVER TRAINING INJURY STUDY	IN PROGRESS
241/00	MALARIA SURVEILLANCE IN THE BOBONARO DISTRICT OF EAST TIMOR	FINALISED
242/01	EVALUATION OF A NEW REPELLENT FORMULATION AGAINST MOSQUITOES IN AUSTRALIA	IN PROGRESS
243/01	EVALUATION OF A NEW REPELLENT FORMULATION AGAINST MOSQUITOES IN EAST TIMOR	IN PROGRESS
244/01	OPTIMISING HEALTH CARE DELIVERY IN THE ACT: A TRIAL OF NURSE PRACTITIONER SERVICES.	IN PROGRESS
245/01	EVALUATION OF THE USER ACCEPTABILITY OF A NEW REPELLENT BY SOLDIERS	IN PROGRESS
246/01	FOOT BLISTER PREVENTION IN ARMY PERSONNEL: A RANDOMISED CONTROLLED TRIAL.	IN PROGRESS
247/01	FIELD IN VITRO DRUG RESISTANCE AND SENSITIVITY TESTING IN THE BOBONARO DISTRICT OF EAST TIMOR	PENDING
248/01	CROSS SECTIONAL SURVEY FOR MALARIA IN THE BOBONARO DISTRICT OF EAST TIMOR	PENDING
249/01	EVALUATION OF MEFLOQUINE FOR THE PROPHYLAXIS OF MALARIA IN NON-IMMUNE AUSTRALIAN SOLDIERS	IN PROGRESS

Protocol number	Research Title	Status
250/01	EVALUATION OF THE JAPANESE ENCEPHALITIS VACCINE - EFFECTIVENESS AND EFFICIENCY OF INTRADERMAL BOOSTING	IN PROGRESS
251/01	FORCED CHOICE TESTING IN AUDIOMETRY	WITHDRAWN
252/01	COLLECTION OF DENGUE POSITIVE SERA	PENDING
253/01	COGNITIVE AND PSYCHOMOTOR EFFECTS OF BACOPA MONNIERA (BRAHMI) AND GINKGO BILOBA EXTRACT	IN PROGRESS
254/01	DO CAPACITIVITY COUPLED ELECTRIC FIELDS ACCELERATE TIBIAL STRESS FRACTURE HEALING?	PENDING
255/01	NUTRITIONAL, PHYSIOLOGICAL, PSYCHOLOGICAL AND IMMUNOLOGICAL EFFECTS OF A SURVIVAL EXERCISE IN THE COLD	FINALISED
256/01	THE USE OF BLOOD PRODUCTS BY AUSTRALIAN DEFENCE FORCES (ADF) IN OP BELISI (BOUGAINVILLE) AND OP WARDEN/TANAGER (EAST TIMOR)	IN PROGRESS
257/01	NAVY SHUTTLE RUN TEST AND INJURY OUTCOME STUDY.	WITHDRAWN
258/01	AUDIT OF A SAMPLE OF MEDICAL FILES OF REJECTED ADF APPLICANTS - WHAT PROPORTION OF APPLICANTS ARE REJECTED ON MEDICAL GROUNDS, AND WHAT ARE THE MEDICAL CAUSES OF REJECTION?	IN PROGRESS
259/01	WHAT NOW PLATOON COMMANDER?: THE EFFECTS OF EXPERTISE, TIME PRESSURE AND VAGUE INFORMATION ON DECISION MAKING.	IN PROGRESS
260/01	A PROSPECTIVE STUDY ON THE INCIDENCE AND AETIOLOGICAL FACTORS OF MEDIAL TIBIAL STRESS SYNDROME IN NAVAL RECRUITS.	IN PROGRESS

Protocol number	Research Title	Status
261/01	THE DIFFERENCES IN PERSONALITY BETWEEN DIFFERENT GROUPS OF PILOTS	WITHDRAWN
262/01	USE OF COOLING-VESTS ON OPERATORS WITHIN THE CHUBBY TRAIN: MEERKAT (MDV) OPERATORS, HUSKY (MDTV) OPERATORS AND SAPPER/PRODDERS.	IN PROGRESS
263/01	REVIEW OF LOWER BACK PAIN IN AUSTRALIAN FAST JET PILOTS	NEW PROTOCOL
264/01	A RETROSPECTIVE ANALYSIS OF ARTHROSCOPIC SURGERY PERFORMED AT NO 3 COMBAT SUPPORT HOSPITAL - A TEN YEAR EXPERIENCE	NEW PROTOCOL
265/01	COMPARATIVE STUDY OF DOXYCYCLINE/ PRIMAQUINE AND PRIMAQUINE ALONE IN AUSTRALIAN SERVICE PERSONNEL DEPLOYED SHORT-TERM TO MALARIOUS AREAS.	IN PROGRESS
266/01	COMPARATIVE STUDY OF THE SIDE EFFECTS OF DOXYCYCLINE AND MALARONE <sup>(TM)</sup> ON AUSTRALIAN SERVICE PERSONNEL	NEW PROTOCOL
267/01	EVALUATION OF TAFENOQUINE <sup>(TM)</sup> FOR THE PREVENTION OF VIVAX MALARIA RELAPSE	NEW PROTOCOL
268/01	A STUDY OF THE IMMUNE RESPONSE AGAINST DENGUE: DEN052 ESTABLISHMENT OF DENGUE ELISPOT METHODOLOGY.	NEW PROTOCOL
269/01	LEOPARD CREW CLIMATE CONTROL SYSTEM (LCCS) PROJECT - CONDUCT OF RISK ANALYSIS OF THERMAL STRAIN TO TANK CREWS	IN PROGRESS
270/01	THE COMPARISON OF THORACO-LUMBAR SPINAL FLEXIBILITY, POSTURE, RANGE OF MOTION AND X-RAY FINDINGS BETWEEN MILITARY AND NON-MILITARY PERSONNEL OVER TIME	NOT APPROVED

## FUTURE ACTIVITIES OF ADHREC

### Number of Meetings

ADHREC has increased the number of meetings from four meetings in 1999 to five meetings in 2000 and 2001. The number of meetings may be further increased in the future, with the growth of research conducted by and for the ADF and the Australian Defence Organisation (ADO).

### Researcher Audits

The Committee plans to conduct further audits of researchers' files and practices. Auditing of researcher's files during 2000 and 2001 has improved the way in which research is conducted. Auditing facilitates and improves ADHREC's monitoring of Defence research, in accordance with NHMRC guidelines.

### Compliance with the National Statement on Ethical Conduct in Research Involving Humans - National Health and Medical Research Council (NHMRC)

In 1999, the NHMRC issued the "*National Statement on Ethical Conduct in Research Involving Humans*" (the National Statement) in accordance with the National Health and Medical Research Council Act 1992 ('the Act').


The National Statement combined a number of previously separately published documents, outlining comprehensively the membership and operations of HRECs, guidelines on the storage, handling and privacy of information held by HRECs, and on various components of health and medical research. It provides guidelines about maintaining the privacy and confidentiality of personal information or material of research participants.

ADHREC has been formed in accordance with the National Statement, and functions in compliance with the guidelines. ADHREC will continue to maintain its resolve to maintain compliance with the National Statement, ensuring that ADHREC undertakes best-practice ethical review. ADHREC has developed mechanisms for receiving complaints or comments regarding both the considerations and conduct of the committee. ADHREC will continue to strive to ensure the continued compliance to the National Statement.

*Activities*

**AUSTRALIAN DEFENCE  
HUMAN RESEARCH ETHICS COMMITTEE**

**STRUCTURE as at June 2001**

<b>POSITION</b>	<b>INCUMBENT</b>
Chair	Air Vice Marshal Bruce Short
At least one member who is a lay man, who has no affiliation with the Department of Defence, is not currently involved in medical, scientific or legal work, and who is preferably from the community in which the organisation is located	Mr. David Dillon
At least one member who is a lay woman, who has no affiliation with the Department of Defence, is not currently involved in medical scientific or legal work, and who is preferably from the community in which the organisation is located	Mrs Elizabeth Grant, AM
At least one member with knowledge of, and current experience in, the areas of research that are regularly considered by the HREC	Colonel Peter Warfe, CSC.
At least one member with knowledge of, and current experience in, the professional care, counselling or treatment of people	Dr Alan Twomey
At least one member who is a minister of religion, or a person who performs a similar role in a community such as an Aboriginal elder	Monsignor Max Davis, AM VG
At least one member who is a lawyer	The Honourable Justice Terence Higgins
Additional member with knowledge of, and current experience in, the areas of research that are regularly considered by the HREC	Professor John Pearn, AM RFD
	

## THE ADHREC SECRETARIAT as at June 2001

Executive Secretary	Major Rosemary Landy
Assistant Executive Secretary	Ms Raphaela Jarvis
Minute Secretary	Major Sue Turner

### AUSTRALIAN DEFENCE HUMAN RESEARCH ETHICS COMMITTEE

#### ATTENDANCES 2000/2001

#### MONDAY 28 FEBRUARY 2000 - 1630 HOURS

##### In Attendance

**Chair:**

Major General J.H. Pearn, AM, RFD

**Executive Secretary:**

Lieutenant Colonel V.R. Ross

**Members:**

Colonel P.G. Warfe, CSC

The Honourable Justice T. Higgins

Mr D. Dillon

Mrs E. Grant, AM

Monsignor M. Davis, AM, VG

Dr A. Twomey

**Minute Secretary:**

Major R. A. Landy

**Invited guests:**

Group Captain Emonson, *Director Clinical Policy, Defence Health Service Branch*

Major S.J. Kitchener, *Officer Commanding, Clinical Field Section, Army Malaria Institute*

Mr R. Jackson, *Staff member, Defence Health Service Branch*

#### MONDAY 27 MARCH 2000 - 1630 HOURS

##### In Attendance

**Chair:**

Major General J.H. Pearn, AM, RFD

**Executive Secretary:**

Lieutenant Colonel V.R. Ross

**Members:**

Colonel P.G. Warfe, CSC

The Honourable Justice T. Higgins

Mr D. Dillon

Mrs E. Grant, AM



**Minute Secretary:**

Major R.A. Landy

**Invited Guests:**

Mr R. Jackson, *Staff member, Defence Health Service Branch*

**Apologies:**

Monsignor M. Davis, AM, VG  
Dr A. Twomey

## MONDAY 05 JUNE 2000 - 1630 HOURS

### In Attendance

**Chair:**

Major General J. H. Pearn, AM, RFD

**Executive Secretary:**

Lieutenant Colonel V. R. Ross

**Members:**

The Honourable Justice T. Higgins

Mr D. Dillon

Mrs E. Grant, AM

Monsignor M. Davis, AM, VG

Dr. A. Twomey

**Minute Secretary:**

Major R.A. Landy

**Invited Guests:**

Mr R. Jackson, *Staff member, Defence Health Service Branch*

Major S.J. Kitchener, *Officer Commanding, Clinical Field Section, Army Malaria Institute*

**Apologies:**

Colonel P.G. Warfe, CSC

## MONDAY 21 AUGUST 2000 - 1630 HOURS

### In Attendance

**Chair:**

Major General J. H. Pearn, AM, RFD

**Executive Secretary:**

Lieutenant Commander M. Blenkin

**Assistant:**

Ms R.J. Jarvis

**Members:**

Colonel P.G. Warfe, CSC

The Honourable Justice T. Higgins

Mr D. Dillon

Mrs E. Grant, AM

Monsignor M. Davis, AM, VG

Dr A. Twomey

**Minute Secretary:**

Major R.A. Landy

**Invited Guests:**

Captain R.D. Green, RANR, *Officer Commanding Submarine and Underwater Medicine Unit*

Doctor J.W. Pennefather, *Senior Technical Researcher Submarine and Underwater Medicine Unit*

*Attendances*



Major S.J. Kitchener, *Officer Commanding,  
Clinical Field Section, Army Malaria Institute*  
Major J.M. Pert, *Staff Officer Grade Two  
Research and Development, Headquarters  
Training Command - Army*

## MONDAY 27 NOVEMBER 2000 - 1530 HOURS

### In Attendance

**Chair:** Major General J. H. Pearn, AM, RFD  
**Executive Secretary:** Lieutenant Commander M. Blenkin  
**Assistant:** Mr. E.L. Newman  
**Members:** Colonel P.G. Warfe, CSC  
The Honourable Justice T. Higgins  
Mr D. Dillon  
Mrs E. Grant, AM  
Monsignor M. Davis, AM, VG  
Dr A. Twomey

### Minute Secretary:

**Invited Guests:** Major R.A. Landy  
Air Commodore B.H. Short, RFD,  
*Assistant Surgeon General Australian  
Defence Force (Royal Australian Air Force)*  
Major S.J. Kitchener, *Officer Commanding,  
Clinical Field Section, Army Malaria Institute*

## MONDAY 26 FEBRUARY 2001 - 1630 HOURS

### In Attendance

**Chair:** Air Vice-Marshal B.H. Short, RFD  
**Executive Secretary:** Lieutenant Commander M. Blenkin  
**Assistant:** Ms R.J. Jarvis  
**Members:** Colonel P.G. Warfe, CSC  
The Honourable Justice T. Higgins  
Mrs E. Grant, AM  
Monsignor M. Davis, AM, VG  
Dr A. Twomey  
Professor J.H. Pearn, AM, RFD

### Minute Secretary:

**Invited Guests:** Major R.A. Landy  
Dr K. Horsley, *Department of Veterans  
Affairs*  
Colonel R. Millar, *Director Health*

*Attendees*

*Capability Development,  
Defence Health Service Branch  
Group Captain C.M.H. Doherty, Senior  
Adviser Nursing, Defence Health  
Service Branch  
Wing Commander J.A. Ross, Staff Officer  
Grade One Health and Human  
Performance Research, Defence Health  
Service Branch  
Major S.J. Kitchener, Officer  
Commanding, Clinical Field Section,  
Army Malaria Institute  
Mr. D. Dillon*

**Apologies:**

**MONDAY 23 APRIL 2001 - 1630 HOURS**

**In Attendance**

<b>Chair:</b>	Air Vice-Marshal B.H. Short, RFD
<b>Executive Secretary:</b>	Major R.A. Landy
<b>Assistant:</b>	Ms R.J. Jarvis
<b>Members:</b>	Colonel P.G. Warfe, CSC Mr. D. Dillon Mrs E. Grant, AM Monsignor M. Davis, AM, VG Dr A. Twomey Professor J.H. Pearn, AM, RFD
<b>Minute Secretary:</b>	Major S.M. Turner
<b>Apologies:</b>	The Honourable Justice T. Higgins

**MONDAY 18 JUNE 2001 - 1630 HOURS**

**In Attendance**

<b>Chair:</b>	Air Vice-Marshal B.H. Short, RFD
<b>Executive Secretary:</b>	Major R.A. Landy
<b>Assistant:</b>	Ms R.J. Jarvis
<b>Members:</b>	The Honourable Justice T. Higgins Mr. D. Dillon Mrs E. Grant, AM Monsignor M. Davis, AM, VG Dr A. Twomey Professor J.H. Pearn, AM, RFD

*Attendances*

**Invited Guests:**

Major S. Hodson, *Clinical Psychologist*  
Major S.J. Kitchener, *Officer*  
*Commanding, Clinical Field Section,*  
*Army Malaria Institute*

Lieutenant Commander Sonya Bennett,  
*Research Officer Army Malaria Institute*

Captain Tracey Carthew, *Research Officer*  
*Army Malaria Institute*

**Apologies:**

Colonel P.G. Warfe, CSC

Major S.M. Turner

*Attendances*

**AUSTRALIAN DEFENCE HUMAN RESEARCH ETHICS COMMITTEE**

**EXPENSES 2000/2001**

Meeting	Feb	Mar	Jun	Aug	Nov	Feb	Apr	Jun	TOTAL
<b>Air Vice-Marshal B.H. Short</b> Travel					749.75	1008.20	959.70	972.75	3690.40
<b>Mr. D. Dillon</b> Sitting Fee	247	247	247	247	247	250	250	250	1985.00
Travel	244.25	244.25	244.25	244.25	244.25	244.25	244.25	244.25	1709.75
<b>Mrs E. Grant</b> Sitting Fee	247	247	247	247	247	250	250	250	1985.00
<b>Monsignor M. Davis</b> Sitting Fee	247	247	247	247	247	250	250	250	1985.00
<b>The Honourable Justice T. Higgins</b> Sitting Fee	247	247	247	247	247	250	250	250	1985.00
<b>Professor J. H. Pearn</b> Travel	889.75	370	1163.10	752.10	1352.70	1586.25	889.65	1100.99	8104.54
<b>Refreshments</b>	92.45	84.50	116.55	112.00	121.25	120.00	105.00	148.00	899.75
<b>Photographs</b>			30.34	95.00			13.27		138.61
<b>Journal of Medical Ethics</b>									387.32
<b>Monash Bioethics Review</b>									70.00
<b>1999 Annual Report Research Audits</b>									3155.00
<b>Total \$</b>	<b>2214.45</b>	<b>1686.75</b>	<b>2542.24</b>	<b>2191.35</b>	<b>3455.95</b>	<b>3714.45</b>	<b>3211.87</b>	<b>3465.99</b>	<b>26095.37</b>

# AUSTRALIAN DEFENCE HUMAN RESEARCH ETHICS COMMITTEE

## CONTACT DETAILS

Contact details for ADHREC are as follows:

Executive Secretary

Australian Defence Human Research Ethics Committee

CP2 - 7 - 66

Department of Defence

CANBERRA ACT 2600

Ph: 02 6266 3837

Fax: 02 6266 4982

E-mail: [ADHREC@defence.gov.au](mailto:ADHREC@defence.gov.au)

## MORE INFORMATION

The Defence Health Service Branch Defence Intranet web site can be accessed at <http://defweb2.cbr.defence.gov.au/dpedhsb/>, where there are links to ADHREC. At this site, the ADHREC Researchers Guidelines, ADHREC's Guidelines for Volunteers as well as information on all the committee members can be accessed. When published, the new ADFP 733 - Defence Health and Human Performance Research in the Australian Defence Organisation will be made available at the ADHREC site.

DHSB is developing its site on the Internet at [www.defence.gov.au/dpe/dhs](http://www.defence.gov.au/dpe/dhs), when complete, information on ADHREC will be available here.

*Contacts*