AUSTRALIAN MILITARY MEDICINE ASSOCIATION

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STATEMENT OF OBJECTIVES

The Australian Military Medicine Association is an independent, professional scientific organisation of health professionals with the objectives of:

- promoting the study of military medicine
- bringing together those with an interest in military medicine
- disseminating knowledge of military medicine
- publishing and distributing a journal in military medicine
- promoting research in military medicine

Membership of the Association is open to doctors, dentists, nurses, pharmacists, paramedics and anyone with a professional interest in any of the disciplines of military medicine.
The Association is totally independent of the Australian Defence Force.

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EDITORIAL

SOCS, DOCS, MOCASP, NOCS, PPOCS, CMVH...

More military medical acronyms – just what we need. These acronyms, however, are important as they herald a quiet revolution in how the Australian Defence Force intends to train, remunerate and hopefully better retain their health personnel. Working on the basis of the 1998 decision by Defence to progress Specialist Officer Career Studies (SOCS) through the Defence Force Remuneration Tribunal (DFRT), 2003 is the year that the Defence Health Service will have its day. The thrust of these proposals is to move away from rank-based remuneration to a competency-based system, albeit with a rank overlay. The first cab off the rank was the Dental Officer Career Study (DOCS), which was heard and approved by the DFRT in May 2003. The next study to go to the DFRT will be the Medical Officers Career and Salary Proposal (MOCASP), which will be heard in July 2003. This proposal has been widely publicised as part of a national roadshow by the Director of Health Projects. The Nursing Officer Career Study (NOCS) will follow in November 2003, with Physiotherapy and Pharmacy Officer Career Studies (PPOCS) tentatively scheduled for 2004. Getting DFRT sign-off is only the first step, however, with determination of competency levels and the training required being a major task over the next 12 months.

The other initiative that is reaching fruition is the proposed Centre for Military and Veterans Health (CMVH). Originally announced by Minister Vale on 31 January 2002, contract negotiations are being finalised with the consortium involving the University of Queensland along with Adelaide University and the Menzies School of Health Research. The expected commencement day is January 2004. It is based on a three-way collaboration between the Defence Health Service, the Department of Veterans’ Affairs and the contracted university and its allied teaching hospitals. CMVH will coordinate research into the impacts of military service on the health of serving members and veterans, manage professional development and training for members of the Defence Health Service, and provide access to integrated health and related information systems, including telemedicine and e-health. This has the potential to revitalise military health research and training and is a very welcome initiative.

Welcome to the second issue of 2003, which is an interesting one. We have published two Ten Years On articles, one on health support in Somalia and the other by the current Director General Defence Health Service on a ‘purple’ health service. A satirical article looks at some of the major issues of getting Reserve specialists into the field, while we have excellent articles on less lethal projectiles, the Army resuscitation bay, rehabilitation services, and ‘Simpson’. Our peer review process continues apace and is slowly bedding in. This process obviously takes more time as we need to allow time for reviews and any corrections. I would encourage any potential authors to get papers in as early as possible. Thanks all those reviewers who have volunteered and graciously reviewed various articles so far.

Andy Robertson
Well another financial year is almost over.
And what a year it has been.
We have seen another peak of the “War on Terror”,
with the war to overturn the Iraqi regime of Saddam Hussein now over, but the battle to win the peace
seems still to be won. Whether this conflict has made
the world a fundamentally safer place remains to be
seen, but the early signs are not all that positive.

The broader peace in the Middle East, which must
involve a resolution of the Israel-Palestine situation,
seems as far off as ever, although there are some small
positive early signs.

There are some worrying signs in relation to other
members of the so-called “Axis of Evil”, and we must
await further developments in these areas with some
trepidation.

With ongoing troubles to our immediate north and
continuing commitments in peacekeeping operations,
the Defence Health Services continue to get a major
workout.

It was gratifying to see no use of weapons of mass
destruction in Iraq, and we can only hope that this
situation continues. However, the Health Services
must continue to be vigilant in their ability to meet
and counter these threats, and this issue will continue
to challenge the minds of planners and researchers in
the short-to-medium term future. It is in this latter
area that the Australian Military Medicine Association
has a significant role to play.

CORPORATE GOVERNANCE
At its face-to-face meeting in Adelaide in March,
Council spent a considerable time considering the
matter of governance of the Association, which is one
of its fundamental roles. Council recognised that,
whilst it considered its exercise of corporate governance
was sound, there was little in the way of documentation
to support the governance framework.

Flowing from this discussion, a number of
Association Policies and Procedural Instructions are
under development. The documents will, Council
believes, provide a solid framework for the exercise of
corporate governance by clearly setting out those
concepts, responsibilities and activities that the
Council must adhere to. Most of these documents will
be developed and endorsed by Council, but some of
the broader and more far-reaching ones may be put to
the Association's Annual General Meeting in October.

A number of procedural issues will also be put to
the AGM to regularise some matters that this review
of corporate governance has suggested are necessary,
and also possibly to make some amendments to the
Association’s Constitution. Naturally, all these pro-
posed changes will be fully circulated to all members
prior to the AGM.

WHITHER AMMA?
A second major issue that Council considered in
March was the strategic future of the Association.

Since its formation in 1991, AMMA has developed,
matured and progressed so that it now has a solid
foundation for its future. Nevertheless, it has become
apparent to Council that over the last few years, the
Association’s membership has remained largely static.
The small “bump” occasioned by the membership
drive that was possible during last year’s Defence
Health Symposium largely served to correct a small
downward trend from the previous couple of years.

Council considered both the reasons for this and
possible solutions.

Foremost in the mind of Council was the issue of
the Association’s name, and the impact that this has
on some members of the health profession.

When first formed in 1991, the Association’s name
and structure was weighted significantly towards
doctors. This was represented by the categories of
membership and the limitation on the holding of the
position of President to a doctor. This latter provision
was removed relatively shortly after the Association was
formed, and the application of membership categories
does not generally distinguish between the professions.

Council has also evolved to broadly represent the
health profession, with one nurse and one dentist
being on the body.

Nevertheless, the Association’s membership consists
largely of doctors, an over-representation when com-
pared to the proportion of doctors within the health
profession. The number of dentists, nurses, medics and
allied health professionals is relatively small, particu-
larly when considering that these professionals make
up the large bulk of Defence Health personnel. There
would appear to be a largely untapped group of poten-
tial members amongst the other health professionals
who work within the profession of military health.

There is little hard data to inform on the reasons
for this situation. Anecdotally, however, the name of
the Association, and the residual “sense” that derives
from the early days, does seem to be an important
barrier to broadening the membership of the
Association.

Accordingly, Council has approved the preparation
of a paper to propose formally to the membership that
the Association’s name be changed from “Australian
Military Medicine Association” to a name that more
broadly represents the Association’s fundamental
philosophy; that is, the advancement of military health
and the military health profession. The logical name is
“Australian Military Health Association”, but there
may be other ideas out there that would be worthy of
consideration.

This proposal will not be hastily pursued. Council
will prepare the paper for presentation at the AGM in
October 2003. Following this, a process of feedback
and consultation with the membership and, if appro-
 priate, other appropriate military health professional
groups, to determine, firstly, the level of support for
the proposal and, secondly, the preferred name for the
Association. Council would then consider presenting
a formal proposal at the October 2004 AGM for a
change of name.

AMMA has always prided itself on representing
the broad church of the military health profession, of
being an Association that works to break down the
professional and military barriers that often hinder
the advancement of health care. Council feels that the
time is nigh to seriously consider whether the
Association’s name and image should be updated to
reflect these aims.

CONFERENCE 2003
Not long now. The Association’s Annual Scientific
Conference will be held in Adelaide from 17 – 19
October 2003.

Once again, I challenge you all to sit down and
write that paper now. Details of the conference can be
found elsewhere in this journal.

I would also foreshadow that the 2004 Conference
will be held in Canberra from 15 – 17 October 2004.

Look forward to seeing you all in Adelaide.

Russ Schedlich
Letters to the Editor

A matter of concern

Dear Editor,

It came as no surprise to Australian health professionals when, at the 9th International Congress on Obesity, Professor Philip James, chairman of the International Obesity Task Force, stated that many of the risks for cancer, diabetes and other diseases related to excess weight are much greater than previously thought and that childhood obesity is out of control.¹

Those of us responsible for the health care of Military personnel will be aware of the constant battle to keep obese members of the Australian Defence Force (ADF), especially those with injuries to lower limb joints, fit for individual readiness and deployment.

Then we read in the New England Journal of Medicine that researchers, in an analysis from the Framingham Study over a 14 year period, who were seeking to clarify the relationship between obesity and heart failure, found obesity to be independently responsible for 14% of heart failure cases in women and 11% of cases in men.²

So it is a matter of concern to me that, in the course of performing routine medical examinations on Australian Defence Force Academy (ADFA) cadets, particularly those applying for flying training, I have noticed an incidence of cholesterol levels which seems high for this young age group (usually 18-22 years).

Out of 106 Cadets, 21 had serum cholesterol levels greater than 5 mmol/litre and 6 were 4.84+ mmol/litre. 14 of the 21 were RAAF cadets and of these, half had cholesterol levels which had increased while they were at ADFA. This data was acquired using MIRMER, the RAAF electronic data base.

On cholesterol levels alone, assuming 5 mmol/litre is high in such a young group, questions arise which may need ADF attention. If diet is mainly responsible, is it because cadets elect to eat an unsatisfactory diet or is the diet provided an unsatisfactory one? Studies have shown that raised cholesterol levels in young men have an adverse effect on morbidity from coronary heart disease (CHD) and cardiovascular disease (CVD) later in life.³⁵

If it is postulated that a 20-year-old with a raised cholesterol (5 mmol/litre +) may develop CHD or CVD at 40 years if it is not checked, this latter time is when he (or she) is likely to be most productive for the ADF. If it is further postulated that if such persons are pilots or aircrew, they are likely to be “grounded”, possibly permanently and their acquired skills lost to the ADF, irrespective of Service.

Since the cost of training pilots to operational standards is of the order of $6 million, replacement of such lost operators is very expensive. Alternatively providing a daily reductase inhibitor such as atorvastatin over 20 years would cost at least $10,000, if such a drug were compatible with military flying. Cost-effective perhaps but is it morally defensible if a modified life-style is more effective and cheaper.

In terms of “duty-of-care”, what would be the ADF position if several members suffered CHD or CVD and claimed it was due to poor diet provided or learned during training and continued habitually? A class-action could be very expensive, not to say embarrassing.

Do we in the ADF need to study this problem, using epidemiological principles, to determine risk factors, outcomes and effectiveness of resource management for example. Is there a need for the education of cadets to include information on the long term effects on the body of what we eat and drink and how our diet can affect our fitness and efficiency? Should we also monitor the food provided to cadets by caterers for good dietary practices by them?

Poor or inappropriate nutrition can undermine the efficiency and long service of ADF members.

Dr E. H. Stephenson
AVM (Retd)
REFERENCES

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Invitation to Submit Abstracts

The 2003 Australian Military Medicine Conference Committee invites you to submit abstracts for oral and poster presentations on Military Health related topics at the 12th Annual Conference.

Oral Presentations

Twenty minutes presentation time, including five minutes for question & answers to be held at the conclusion of each presentation or session (time permitting).

Poster Presentations

Poster sessions may be suitable for people who have not completed research, or are seeking information from other interested parties. Participants will be required to prepare a display which will be mounted on a display panel in the Trade/Refreshments area.

Topics may include, but not be limited to:-

- Aeromedical Evacuation
- Aviation Medicine
- Tropical Medicine
- Military Medical History
- Military Nursing
- Operational Health Support
- Medical Logistics
- Medico-Legal Aspects
- Medical Fitness
- Battlefield Surgery
- Underwater Medicine
- Clinical Practice
- Occupational Health & Safety
- Human Factors
- Disaster Health
- Military Dentistry
- Field Hygiene
- Medical Equipment

Deadline 1700 EST – 15th August 2003
For more information visit: www.amma.asn.au
"Load up, load up, load up, the rubber bullets"

INTRODUCTION
The Australian Defence Force is becoming more involved in military non-combatant control and peacekeeping in areas such as Timor and Bougainville, boarding parties, and the handling of illegal immigrants. This is compounded by Defence Aid to the Civil Power requirements, in events such as boarding parties, the Olympics, and the Commonwealth Heads of Government Meeting. The issue of non-combatant control becomes critical where the use of lethal force would be illegal.

Less lethal projectiles could fill this niche and can be used with current weapon such as the Steyr F88 rifle, the M79/203 grenade launcher and the Remington 12-gauge shotgun. Less lethal projectiles are those designed to incapacitate a target without inflicting lethal injuries, but will do so if used incorrectly. This paper will discuss their design, use and effects, concentrating on rubber and plastic bullets and beanbags.

FLEXIBLE PROJECTILES - BEAN BAGS
Less Lethal projectiles can be categorised into two groups: flexible and non-flexible. The flexible projectile is one that is not of solid formed construction and the one most widely used is the 'Bean Bag' design, which is a tightly woven bag loaded with fine lead shot. It can be fired out of 12-gauge shotguns, 37mm gas guns and 40mm grenade launchers. It is folded into a wad and then inserted into a shell. The bean bag shown in Figure 1 is made by MK Ballistic Systems and weighs 40.4 grams.

In data obtained from 106 United States law enforcement agencies up until 30 May 2001, these projectiles had caused four deaths from 623 firings when used against citizens. The victims were hit in chest (three) and neck (one). Two of the chest impact deaths resulted from penetration into the thoracic cavity and the other still has a coroner's report pending. The majority of non-lethal injuries are bruises and abrasions to the abdomen, chest and back. Impacts to the head tended to cause lacerations and fractures over 50% of the time.

Current training in the Los Angeles Police Department is to have the point of impact within a six inch radius of the navel and on a frontal aspect, but movement of the target, obscured vision and the extreme situation involved does not always allow this to happen. Personnel are taught to shoot at the centre of mass with lethal weapons so under stress this aim point may be taken. This may lead to an unwanted penetration of the thoracic cavity or head.

In a series of tests in Canada, Dahlstrom, Powley and Penke fired Deltal 12 gauge bean bags at three different targets 21 feet (6.5 metres) away to try to understand a previous fatality with the ammunition. Five rounds were fired into a block of ballistic gelatin, three rounds into a block of gelatin with pig's ribs embedded 1-2 inches from the entrance surface, and three rounds into a block of gelatin with the fresh draped belly skin of a pig over the entrance surface. They also studied the bean bag orientation when it hit the target. This could be with the projectile open and contacting the target surface flat, with the sewn edge striking first, or being still rolled up and contacting target surface with sewn edge of bag as leading edge.

The five bean bags that were not of flat orientation in all but one instance (when the bag struck a rib) penetrated deeper than the flat orientation. The other non flat bag broke three ribs and penetrated deeper than the flat bean bag that passed between the ribs (7.6 cm versus 5.1 cm). This could lead to a fatal injury.

2. Sergeant David Andrew BN RN RAAOC (davidandtheresa@bigpond.com) is posted to 7CSSB at Enoggera and works for Queensland Health as a Registered Nurse.
Bean bags must be used cautiously, and tested to
determine the minimum distance for shooting so pen-
etration is not a consequence. The round must also
not be shot at or into the chest, back or head to avoid
a potentially fatal injury.\textsuperscript{10-14}

**NON FLEXIBLE PROJECTILES**

Non-flexible rounds come in a variety of types, shapes
and sizes, and include wooden, rubber or plastic bul-
lets fired from 37mm gas guns, plastic bullets fired
from rifles, rubber bullets fired from rifle canisters,
and rubber balls and pellets fired from shotguns.

The rubber bullet, or rubber baton round (RBR), is
made of slightly flexible rubber, is 37mm diameter and
1 cm long with a slightly rounded tip. It has no gyro-
scopic stability, its flight path is unpredictable and it
readily tumbles on firing. 55,000 of these rounds were
used in Northern Ireland from 1970-75, causing three
deaths, two from head impacts and one from a chest
impact, and many skull fractures, eye injuries and lung
contusions. Soldiers were instructed to fire at the legs
of rioters but, as the rounds were inaccurate, they did
not always go where aimed.

Millar et al. reported on 90 patients that presented
at hospitals in Northern Ireland with injuries from
rubber bullets. The number of rounds fired during
their study was 33,000. The mortality ratio was
1:16,000, the serious injury ratio 1:800 and a disabili-
ty ratio of 1:1900, with 54% of injuries to the head
and neck, 26% to chest and abdomen and 20% to the
limbs. 67% of the victims were male, with 64% of
these in the 10-19 age group.

Of all the injuries, 87 had skin lesions, 21 had sus-
tained fractures of the face and skull bones, 24 had
eye or adnexa injuries, three had severe brain injuries
with one being a fatality of an 11 year old boy allegedly
shot from 2-3 metres. Nine had chest injuries and
three had abdominal injuries with the other fatality
being a chest injury that may have been caused by the
projectile injury or as a result of respiratory obstruc-
tion on route to hospital. Of the 90 studied, two
died. 14 had various degrees of blindness, 4 were
facially disfigured, three had anosmia and one had a
stiff finger joint, with the other 62 having no perma-
nent disability or disfigurement.

The study raises the issue of using rubber bullets
against young or disabled people involved in the riots,
as the youngest person hit was seven and one victim
had osteogenesis imperfecta. The severity of injury is
increased in children due to the reduced body mass and
immature bone growth. Such use could also lead to
claims of brutality against children and disabled people
with the ensuing political and legal ramifications.

The 37mm plastic bullet, or plastic baton round
(PBR), replaced the rubber baton round used in
Northern Ireland in 1975. Up to 1999, over 60,000
had been fired and, even though they were more accu-
rate, they caused more injuries. This was due to their
tendency to strike head on as a consequence of their
rod like shape, which meant that the energy was
transferred over a smaller surface area causing more
injuries. There had been fourteen deaths in Northern
Ireland with ten from head strikes and four from chest
strikes.

The American experience shows that the belly but-
ton aim point often lead to chest injury. The three
recorded deaths were from the rounds fracturing a
rib, which pierced the heart in one case, the lung in
the second and both the heart and lung in the third.
The literature does not expound the non-lethal
injuries caused by individual types of projectiles.

Rocke in 1983 compared Millar et al's research to
a similar number of people struck with plastic bullets
and found that, while the plastic bullets tended to be
more lethal when the skull is hit, the rubber bullet
struck more people in the face and also caused more
lung contusions.

Rubber and plastic ammunition is used in Israel
and was designed to be used by the Israeli Defence
Force to cause sudden and reversible immobilisation
of demonstrators by inflicting painful and non-pen-
etrating injuries. This was to avoid the serious
wounds and deaths caused by conventional military
ammunition. There are four variants of the rubber
bullets, which are fired from a canister mounted on
either the M-16 or Galil combat rifles. Two are spheri-
cal rubber balls 1.8 cm in diameter known as the
Standard Rubber Bullet (SRB). The other two are
cylindrical projectiles of the same diameter and 1.8
cm in length. The plastic bullet is fired from a 5.56
assault rifle, weighs 0.85g and is composed of an alloy
of PVC and metallic fragments.

There were 17 fatalities recorded with ten from the
rubber bullet and seven from the plastic bullet. Ten
fatalities were from brain injury, two from cardiac
injury, three from internal haemorrhage, and single
cases of spinal shock and blood aspiration. Again, their use against young males is highlighted, with 12 fatalities in the 10–19 age group with a mean age of 15. There was only one woman fatality aged 42. Non-lethal injuries were not discussed in the report.

As an aside, not all less-lethal projectiles are designed to control people or are sophisticated in design. A 12 gauge shotgun round called a ‘Smack’ round is made and marketed from a cattle property in Nebo, Queensland, and is used in rounding up cattle. It is made by loading a cut off shotgun wad into a plastic case, inserting a piece of hydraulic hose and sealing the case.

**CONCLUSION**

Less-lethal projectiles are aptly named because, although they are designed to injure, they can kill if they hit vulnerable areas of the body, particularly the chest and head. They give law enforcement and military personnel an option, however, of using something other than lethal force. Training is required to prevent serious and fatal injuries.

The ADF has a need for such rounds where the use of lethal force is unwarranted or illegal, such as in peacekeeping or Defence Aid to the Civil Power. It has the weapons to fire these projectiles and, with proper training and rules of engagement, these rounds would be a valuable adjunct to military operations.

**REFERENCES**

BACKGROUND

The force comprised a headquarters (Headquarters, Australian Forces Somalia - HQ AFS), located in the capital Mogadishu and a Battalion Group based on the 1st Battalion Royal Australian Regiment (1 RAR) with combat support from the 4th Field Regiment (the battery commander and forward observer parties of the 107th Field Battery), B Squadron, 3/4th Cavalry Regiment (30 armoured personnel carriers), a troop of field engineers from the 3rd Combat Engineer Regiment, and administrative support from the 1st Battalion Support Group (1 BSG, an element of the 3rd Brigade Administrative Support Battalion [3 BASB]). The Battalion Group was located in Baidoa and had a strength of 930.

Health support was provided by the:

- regimental aid post (RAP), 1 RAR;
- treatment section 1 BSG (includes Level 2 care, road evacuation and preventive medicine);
- dental section 1 BSG;
- 159 Medical Company (air ambulance), a US Army Unit providing aeromedical evacuation (AME) using Blackhawk helicopters;
- the 86th Evacuation Hospital (US Army), located in Mogadishu;
- the Swedish Field Hospital, located in Mogadishu;
- the Joint Forward Laboratory (pathology services) in Mogadishu; and
- Staff Officer 2 Medical a: HQ-AFS as liaison with Mogadishu-based facilities.

SCOPE OF STUDY
This study is a preliminary, retrospective review of attendances and admissions to the Level 1 and 2 assets (RAP 1 RAR and the Treatment Section of 1 BSG). It covers the first 10 weeks of the deployment (16 January to 27 March 1993).

The population covered by these assets included the 1 RAR Battalion Group, US Army Forces in the Baidoa area (primarily the HQ Company of the 43rd Battalion Engineers) and military and civilian convoys passing through the area. Care was provided to any Somali injured by coalition forces, those employed by the forces at Baidoa, and any locals detained by the force. HQ-AFS was based in Mogadishu and used the US facilities based there for Level 1 care. They have not been included in this study. The average dependency for the period has been taken as 1,000.

ATTENDANCES
Figure 1 shows the total attendance (all reasons) at the Baidoa facilities for the period.

![Consultations chart](image)

**Figure 1**: Attendances at Level 1 Facilities:
Total Consultations (all Nationalities, all Reasons)

Figures 2 and 3 show attendances by category to the RAP 1 RAR, and 1 BSG respectively. The categories used are those laid down by the Joint Task Force Surgeon (the ranking US military medical corps person in theatre). The category ‘G1T’ includes diarrhoea.

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2. Major Duncan transferred to the Active Reserve as COL Duncan, RAAMC at the end of 2002.
some tree sap entered his eyes. He was admitted under the ophthalmologist at the 86th Evacuation Hospital.

Two US casualties were evacuated to the 86th Evacuation Hospital. One required cervical spine x-rays after a fall, and the other suffered a fractured femur in an MVA.

Two Somali battle casualties were evacuated for surgery. They were injured in a contact with an Australian patrol. One had a gunshot wound in his chest and left arm, while the other had a gunshot wound of his right knee.

Five other Somali casualties (three injured by bandit activity, one by Australian fire, and one in an MVA) were evacuated to the local hospital in Baidoa after stabilisation at 1 BSG.

DISCUSSION
The dependency of the BSG was around 90 to 100 Australian troops, while 1 RAR RAP catered for 800. The US engineer elements were close to the BSG, and presented for Level 1 care while in the area (from early February to early March).

The high number of orthopaedic consultations is because members were encouraged to present early with all wounds so thorough cleaning with antiseptics could occur. The incidence of wound infection was low with this policy.

Of the 144 GIT cases, 78 were for diarrhoeal illness. All GIT admissions had diarrhoea as a component of their illness. One faecal specimen was positive for shigella (out of 15 specimens sent) although another five cases received norfloxacin because of bloody diarrhoea and failure to respond to 36 hours nil by mouth.

Malaria chemoprophylaxis was in the form of doxycycline 100 mg daily. The majority of members found they could only tolerate this by taking it with meals. Eight people were changed to mefloquine (25mg weekly) because of adverse reactions to the doxycycline. Reasons were:
- known allergy to doxycycline (1)
- photosensitivity rash on hands (5)
- severe indigestion (2)

The consultation rate for the forces was 153 per week (15.3% of the dependency). This is consistent with the author’s experience on major exercises in Australia. The admission rate to Level 2 was seven per week, or 0.7% of the dependency. This is much lower than the admission rate Medical Company 3 BASB experienced during Exercise K92 (the total dependency for that exercise is not known; however, the

Figure 2: Attendance at 1 RAR RAP by Category: 16 Jan – 27 Mar 93

The category ‘Orthopaedic’ includes all injuries, no matter how severe, while URTIs are included in the ‘Respiratory’ category.

Figure 3: Attendance at Treatment Section 1 BSG by Category: 16 Jan – 27 Mar 93. [Note: Unit was co-located with Dental Section]

ADMISSIONS
Figure 4 shows the admissions to the Level 2 facility by category.

Figure 4: Admissions to Treatment Section 1 BSG by Category: 16 Jan – 27 Mar 93.

EVACUATIONS TO LEVEL 3
Only one Australian required inpatient care in a Level 3 facility. This was a member who developed a severe bilateral keratitis, conjunctivitis and scleritis after
Company had 90 non-exercise admissions in two weeks. Possible reasons for this include:
- The environment in Somalia has been less harsh than that in Australia's "Top End".
- Most of the members of the Force live in Townsville and acclimatisation was not as difficult as it might have been.
- The longer duration of the deployment and a staged assumption of the Battalion Groups role allowed an adequate acclimatisation period. There was no frantic rush to get the most out of the "training dollar".
- There were very few members deployed on the operation with pre-existing chronic health problems.

The admission rate to Level 3 care for the Australian Force was exceptionally low (one patient out of 930 in 10 weeks). Possible reasons for this include:
- A long holding policy for the Treatment Section (10 days).
- The lack of conditions requiring surgery. There were no battle casualties requiring surgery among the Australians, no significant non-battle casualty trauma, and no routine surgical problems (not even a hint of appendicitis).
- An excellent preventive medicine programme consisting of:
  - enforcement of preventive measures throughout the chain of command (long clothing after dark, closed footwear at all times except asleep, mosquito nets up at night);
  - early presentations of illness and injuries;
  - an aggressive vector control programme (which included permethrin impregnation, spot spraying of accommodation areas and area spraying); and
  - constant monitoring of water quality.

CONCLUSION
Operation Solace has six weeks to go at the time of writing. There is no significant reason to expect the attendance rate to vary significantly from that reported. A rate of attendance to Level 1 facilities of 20% and an admission rate to Level 2 facilities of 1% seems an appropriate rate for medical planning purposes for future similar activities.
A View From The Front

MILITARY INCOMPETENCE:
Much Ado About Nothing or The Divine Comedy?
Experience of a Specialist Reserve Medical Officer in East Timor

Roger Allen

The author describes his personal experience with the Australian Defence Forces as a Medical Officer in the Royal Australian Army Medical Corps (RAAMC) and proposes that there should be major improvements made to facilitate deployment of Medical Officers in the field. In his experience, the systemic inefficiencies and incompetence mitigates against this and he is pessimistic that any real changes will be made because of the institutional composition of the military infrastructure. Military incompetence appears to be a sine qua non of armies. Unless changes are made, Australia with its limited manpower and resources as well as vast coastline is at serious risk of not coping with a larger conflict. As medical support remains integral to an efficient fighting force, and as most comes from Reserve Units, its efficient and speedy utilisation and mobilisation should be a high priority and backed with adequate resources. The experience in East Timor and Bougainville highlights major deficiencies in the system which is currently stretched to the limit although only a low-level peacekeeping operation and not an open conflict.

Systemic incompetence remains a flaw in the system.

INTRODUCTION

May I commend to the readers the excellent publication “On the Psychology of Military Incompetence” by Dr Norman Dickson, Fellow of the British Psychological Society, former Professor Emeritus of Psychology at the University College London and, for a decade, an officer in the Royal Engineers in bomb disposal. He got his hands dirty and is not an ivory tower academic. In this enlightening, somewhat depressing and certainly provocative work, with a foreword by Brigadier Shefford Bidwell, Dickson outlines a litany of military incompetence from the Boer War to the Battle of Arnhem. He also analyses the causes of such incompetence and possible remedies.

The thesis of my paper is that military incompetence prevails in the Australian Defence Force, as the underlying reasons for it remain the same. To err is human... and all organisations and human beings have the ability to fall short of perfection but I contend serious systemic problems continue to exist in the ADF and, if not corrected, put our national sovereignty ultimately in peril. I also propose that battles and wars are won by the least incompetent rather than won by the valour and blood of its soldiers. Surely Gallipoli is a poignant national example of this. My experience as a Medical Officer, now of moderately high rank (lieutenant colonel), who has been on the receiving end in both peace-time exercises and in East Timor over the past 13 years, has given me a reasonable exposure to the deficiencies of the ADF and in particular of the Medical Corps of all three Services.

In the ADF, there exists an environment alien to the free-thinking civilian physician in full-time private practice and especially for an irreverent iconoclast so epitomised in Australian folklore as integral to the ANZAC spirit. The ADF organism is essentially non-critical. Recommendations for change and discontent permeate upwards through a stultifying deep strata of

2. Dr Roger K. A. Allen is a Consultant Thoracic and Sleep Physician and a Clinical Associate Professor at the University of Queensland. He has recently resigned as a Lieutenant Colonel in the Army Specialist Reserve.
And rarely see the light of day. The desire to keep one’s nose clean for promotion upwards into an increasingly small pyramid of opportunity means that those at the top have learned to keep quiet, not to send seismic ripples down to the bedrock or to the surface where the wider world breathes a different air. The talented in peacetime leave eventually to take up highly paid jobs in the private sector. A few good ones stay. Although lateral thought and imaginative thinking is taught in the pamphlets of Land Warfare, the reality is that within the institution it is stifled. Lack of adequate training and resource management also leads to incompetence but that leads to the incompetence of the system at large.

The Principle of Dr Laurence J. Peter and Raymond Hull reigns supreme (“The Peter Principle”) where everyone rises to his level of incompetence. Peter also said “If you don’t know where you are going you will probably end up somewhere else”.

The fact that I have written this paper flies in the face of military culture and mores. I have on frequent occasions been impressed on reading publications such as Paulatum (ironically the Latin for “little by little”), ADF Health, and Australian Military Medicine, which, in my opinion, do not discuss the real problems in the system faced by the Specialist and general Medical Officers in the Reserve, the backbone of the ADF Medical Corps. These deficiencies are glaringly obvious to anyone in private enterprise who comes into the ADF as if an extraterrestrial visited our war-ravaged polluted planet for the first time. The psychology of inefficiency and incompetence is so endemic and entrenched in the ADF that it is as if one is speaking a different language. It greetsthe Medical Reservist with quite a culture shock and leaves one powerless about its remedy.

All the characters in this treatise have been given code names to protect the perpetrators but the events unfortunately really did happen. The author is code named “White Rabbit” because I am always running against time. My military career will probably be in tatters like my Army Disposal Disrupted Pattern Camouflage Uniform (DPCU) singlets, which I found out were made in Pakistan. The ADF is “Wonderland” and “Alice” and the “White Rabbit” are the Reserve Medical Officer. You can only guess about the “Mad Hatter” and the “Dormouse” viz. French, dormir to sleep.

From the very onset of my deploying for East Timor last year, I encountered systemic incompetence, which persists to this very day as a litany of unnecessary errors and which has culminated in growing dissatisfaction and disaffection with the Armed Services in general by many of my colleagues.

I present these series of events in a humorous and satirical form for several reasons: to keep the readers interest; to show the reader that I, an Australian, have a sense of humour; and despite this, that satire is more powerful than bland, humourless criticism, which is usually met with hostility. Jonathon Swift is a good example. However, the downside is that the reader may dismiss the content as frivolous, non-threatening and not worthy of remedy. Nevertheless, in most cases the messenger is eventually shot rather than the message being received (usually without the ‘coup de grace’), branded as a traitor to the cause or a whistle blower and ostracised. We have shot our “Breakers” and the celebrated trait of intellectual and moral independence of the ANZAC soldier and disrespect for fools, including officers, appears to be mythical now.

BACKGROUND
I served in East Timor from late April until early June 2000. In early 1999, I had reactivated in the Reserve having served in 2 Field Hospital, Brisbane in the late 1980’s and early 1990’s when I ran its paltry Intensive Care Unit. I had left the Reserve then out of sheer frustration with the lack of equipment and major deficiencies with the system. When I joined up my CO (a long serving general practitioner) told me that I would receive a retainer of $1500 per annum for my troubles. I also had to pay a monthly mess bill for a mess at Victoria Barracks I never use and which has been privatised. I was never paid. Eighteen months later I found out when I rang the pay clerk in Melbourne that it had been unilaterally and uncere moniously discontinued. It now costs me to be in the ADF. I wanted to buy my own rifle like the Swiss Reserve but Mr. Howard put a stop to citizens being able to defend the country. You can’t trust soldiers with guns.
The ADF Reserve is charitable organisation so don't expect to get paid. That is why the pay is tax-free in East Timor.

I even bought my own Summer Service Dress (an officer’s suit) as I was told that only Colonels and above have it issued in Queensland as it's not cold enough in winter.

Queensland is hot in winter especially at Oakey and Toowoomba. Only Canberra is cold. Consultants don't need suits.

INTENSIVISTS
When East Timor blew up, the ADF were desperately short of Intensivists. It was I who contacted the Army to indicate that I had had intensive care experience. They did not contact me although they were at that stage contacting numerous civilian Intensivists to engender interest in the ADF. They had no record of my experience in ICU although I had done 20 years in ICU and ran a Reserve ICU for about four years.

The left hand doesn't know what the left hand is doing.

PREPARATION
After I was given a date to deploy to East Timor in September 1999, for the next six months I wasted enormous amounts of time and energy trying to organise my equipment and papers in preparation for my deployment. This took me at least twenty trips to Gallipoli Barracks, Enoggera in my own time while I was running a busy private practice in thoracic and sleep medicine. The “White Rabbit” was in “Wonderland”. The ADF goes to sleep at lunchtime for an hour (the “Dormouse” Principle) and closes down after about 4pm and earlier on Fridays. The only life forms are in the respective messes and, as no one lives on base, the place is often deserted after 4 pm when I sometimes could get away from my rooms. Nothing moves on weekends or holidays; not even wars are allowed to happen.

Make it as difficult as possible for a Medical Specialist Reserve Officer to deploy so as to test his fortitude and battle readiness.

UNITs
At no stage was I given a formal unit to which I really belonged. Defence Corporate Support Office – Brisbane (DCSO-B) was my new official unit (I was once in 2 Field Hospital). However, this was a phantom unit with no one in particular that I knew or who knew of my existence. The Cheshire cat appeared. The Medical Reserve was nominally based at the Victoria Barracks, Brisbane and there was also 2 Field Hospital at Gallipoli Barracks. I was on the Active Specialist Reserve... yet somehow I fell between the cracks and appeared to be in neither unit but in this new unit of DCSO-B. I realised what had happened. I had fallen down a tunnel and like Alice I was growing smaller. Somehow I had become invisible and no one seemed to care that I was offering my valuable time and expertise for my country and all that. I only wished I could find that potion which made me feel like a useful civilian again. To this day I do not know to which unit I belong. Help! Am I in REM sleep again and dreaming.

Do not attach the Specialist Reservist to an organised cohesive functioning unit, as this will make him feel at home, part of a team... and wanted.

MILITARY ACRONYMS
On being attached to any unit, the Army has found it important to keep changing the names of the various units and various acronyms. Everyone speaks in military acronyms and shorthand, which befuddles the “non-speaker” who is afraid to admit his ignorance of this quaint lingua franca. This is evident in the range of ever-changing names for the Medical Reserve Office in Victoria Barracks, now Health Service Army Reserve Queensland (DHSAR or was it DHARS?), and 2 Field Hospital now called the 2nd Health Support Battalion (2 HSB) as well as DCSO-B. What a busy consultant needs is to wade through the myriad of acronyms, changing phone numbers, personnel and find that usually the Reserve Office is only there on Tuesday nights like the Girl Guides.

Change the names and acronyms of units as often as possible as this creates the illusion of efficiency, money for printers and creates confusion in the mind of the enemy as to which unit the soldier belongs.
**MATÉRIEL**

I frequently went to Enoggera Barracks to obtain equipment. The Q-Store at DCSO-B usually had inadequate equipment, often second rate and with vital pieces of equipment missing. Even they admitted it. “Come back next week or perhaps the week after!” they would say glibly to the forlorn White Rabbit. I was then sent on a wild goose chase (the reader will excuse the change of metaphor for a White Rabbit) looking for equipment in other units e.g. the Light Horse Regiment Q-Store here and a “quack, quack there....” and bought much of my equipment out of my own pocket from a private Army Disposal store across the road outside the base. The clothing store at Enoggera often was inadequately equipped including for Army buttons and regulation Army underclothes and even on the week before deployment I was unable to obtain an identification disk (dog tag) as the papers provided by DCSO-B Q-Store provided me with an imprint of a disk but not the disk itself! I fortunately found my old identification disk in my bottom drawer at home.

Do not supply your Reserve Medical Officer with adequate clothing, as this will spoil him. The scrounging instincts so famous in the Australian Army will therefore be developed making him a far more useful officer in the field. This is also to encourage private enterprise and the development of private Army disposal and disrupted pattern camouflage uniform singlets and underpants from Pakistan. This is also helping third world countries.

**TEMPUS FUGIT**

Before deployment, I had to undergo a physical fitness test and trained at home for many weeks to prepare myself for this. A test was arranged at Enoggera at a set time and I raced away from my surgery to attend the test only to find that the appointment which had been made was not kept by the Army and I sat around for 3 hours until 4:30pm waiting for an extemporised PT corporal expert to examine me. This took a whole afternoon from my surgery rather than an hour or so that it was supposed to take. At $400/hour gross, it cost me about $2000 in lost earnings. I still had to see my inpatients until late that night.

When appointments are made by the Army, ensure that the Medical Officer is kept waiting as long as possible and inconvenience to the utmost extent to show him that he is part of an efficient fighting unit recognising his busy clinical demands.

**THE GETTING OF WISDOM**

Having had a tiny cusp of my lower wisdom tooth appearing for the last twenty years with no trouble or caries, I was confronted with the need for removal of my wisdom teeth by the Dental Corps before deployment. They recommended I have an “alveolar split operation”, an outmoded operation that may have left me with a lingual nerve palsy (numb face) as well as considerable swelling of my face for several weeks before deployment as well as other complications. If I were off work after the operation for weeks, I would bear the cost. By then the White Rabbit was getting smarter. He smelled a rat so to speak and everyone knows that rabbits need wisdom teeth to chew things over. The opinion of a maxillo-facial surgeon friend was sought who agreed that I did not require extraction of this determined tooth from my precious lower jaw for such a short deployment. I had seen him professionally at my own expense but it still took numerous phone calls to the Dental Corps to try to obtain a waiver for this unnecessary operation. To cap it off, I then had to have a filling done by the Army for a suspected caries, which my own experienced dentist had not found on a visit just before. O me miserum. The filling done by the Army fell out one week later (clearly a case of rejection) and I had to have yet a third trip back to the Dental Corps for another amalgam.

Ensure that your Medical Officer has unnecessary dental extractions to inconvenience him to the utmost before deployment, to incapacitate him wherever possible and provide poor quality dental work for added inconvenience. This is also to test the mettle of the officer before deployment and to test if he really flosses his teeth. Underlying this moral truth is a deep metaphysical concept: that the Army is held together by a loose amalgam of units and corps.
The famous Colonel T.E. Lawrence (El Lawrence) who had also a healthy disrespect for the Army and as an excellent lateral thinker and strategist and with impeccable molars from all that camel’s cheese, wrote about this curious tendency of the Army in his famous Army dental Bible, “The Seven Pullers of Wisdom”.

ON KILLING PEOPLE
The credo of the ADF is to press with the enemy and kill him. Weapons’ training is an essential part of deployment. After all, doctors need to know how to kill and maim with automatic weapons so that the medical team on deployment gets lots of practice on the survivors. For six months I had asked the ADF, particularly Land Command which I think is located in a Fuhrerbunker in Sydney (that birthplace of the Australian military, the Rum Rebellion) for conversion from the SLR (the rifle we used in Vietnam) to the Austeyr-88 (a 30 round automatic rifle made of plastic parts, deficient in design but with telescopic sights 1.5x and meant to misfire accidentally with uncanny precision and kill you or your friends but not the enemy). For the uninitiated reader, it is worth stating the maxim that the weapon you bear is the end result of a tender by the lowest bidder.

The Army’s need for me to do such training was proliferated during the Christmas holidays where I could have easily done such training with the least inconvenience. But Wonderland was asleep. The Mad Hatter and the Dormouse were in hibernation even during a Brisbane summer. As short as a week before deployment, I was told that I may not even require a weapon but that no one in Timor carried a 9mm Browning pistol except the good General (I later found this to be totally incorrect). As an aside, the Browning is traditionally thrown at the enemy when at close quarters and is useful for cracking walnuts with the butt.

I had already planned to take the week after Easter (immediately before deployment) for a holiday with my family. I was then told immediately before Easter 2000 that I should do a weapons training course with the Austeyr-88 and that this would take three days. I then spent three days of my holidays with my family (I had not taken a holiday for over six months) travelling to and from Montville and Brisbane (over 200km round trip) on three consecutive days. The memory of that Easter holiday has for evermore left a psychic scar in my wife’s unconscious, which is not bad for a psychiatrist. Even the Easter Bunny’s persona has taken on Jekyll and Hyde connotations for my beloved offspring.

Do weapons training at the last minute, as this will keep the officer at the utmost efficiency, and try to do it at the most inconvenient time possible, as this will heighten his aggression on the battlefield.

BRIEFING
Despite the fact that I had six months to prepare for East Timor, I was not given any information about the equipment required or any intelligence or psychological briefing but was told by DCSO-B Q-Store that I could take an Army trunk and pack everything in this. I packed my pack and the Army trunk with equipment, only to be told the day before deployment that I could not take a trunk as I was only staying for five weeks. I received an email from Timor just before departure, which told me almost nothing useful and I would have emailed earlier had I known of the existence of email and the UN Hospital website.

Tell the Medical Officer what is required only at the last minute as this will throw him off balance and prevent him taking excessive amounts of equipment on deployment and save on RAAF or Naval fuel. Don’t tell him too much, as this will make him worry.

PSYCHOLOGY
It was not until I reached Darwin, a few days before deploying in East Timor, that I was given a whole range of psychological pamphlets and information for my family on how to prepare for the months before deployment. This gave me great insight into the psychological process affecting my family on my being uprooted from my civilian life (e.g. anger, frustration,
grieving, etc., etc.) over the preceding six months. They had no support structure like a unit or regiment to which to relate. Had this information been given to me six months before I think this may have helped? It was too late for my wife and family to read this and for me to discuss it with them. No other psychological preparation was given.

Do not provide Medical Officer with psychological pamphlets or information to assist in preparation for deployment until the last minute as this may make him neurotic.

**INCOME**

As I was in full-time private practice and would not receive any income other than that from the Army while away, my private practice still had to be supported (e.g. secretaries, rooms, cars, sleep and respiratory laboratories and other staff) not to mention my family who needed to eat. I was told by Land Command (Medicalursteinbahnfuhrerbunker in Sydney) that I would be paid a private practice support allowance as well as my Army pay, which may help to cover some of these costs. It cost me between $30,000 - $40,000 out of pocket for the period of seven weeks that I was away from my practice (One week before deployment during weapons training and a week recovering on return.) I purposely checked with the pay master three times at DCSO-B who assured me that both my tax free Army pay and my private practice support allowance would be paid promptly while I was in East Timor, the latter of which has since been reduced by the Army to a single lower sum regardless of one's specialty.

After a month in East Timor my wife rang up saying that she had amounted practice debts of over $10,000.00 and had received no money. After numerous phone calls from Dili to Canberra, Land Command in Sydney, etc., etc., I duly found out that the private practice allowance for Operation Tanager had not been ratified for payment unlike previous Operation Warden (INTERFET). I was the first MO to find this out in the 4 months of this “oversight”. For those readers who are bird watchers, Tanager was probably named by some erudite Army ornithologist and is the name of a South American bird of the genus Tanagra, of the passerine family, viz. sparrows and probably also the twist. Its relevance to East Timor remains a mystery to me to this day. It then took further phone calls at an extremely high level to a variety of Fuhrerbunkers in Canberra and Sydney to obtain results. It was not until after I returned from East Timor several months later that any money appeared. By that time my debts were extremely high, my overdraft at bursting point and my practice referrals, which had dropped off considerably for many months, aggravated my financial woes further.

Ensure that promised private practice allowance and pay is delayed as much as possible as all doctors are “fat cats” (or rabbits) and such fiscal chastising encourages the doctor to work harder when he returns. This also encourages Medical Officers to volunteer for further deployments overseas. The AASM awarded for such endeavour has an ironic red stripe through it symbolic of “overdraft” (vide infra). The ADF, especially the pay section, has its clocks calibrated to Mercury's time system, as this planet is unique in that its day is longer than its year. This accounts for the different temporal expectations between civilian soldiers like me and the ADF Mercury (i.e. quick silver) is not to be confused with quick cash.

**PAY OFFICE**

At the end of last year I received my ADF group certificate, which stated that I had paid more tax than I had earned. I tried to explain to my accountant that the ADF had a revolutionary mathematical system and cipher and that they could work out the square root of negative numbers and all sorts of things beyond most mortals. He looked sceptical and unconvinced. My accounting fees nevertheless escalated dramatically and I noted on the account some mention in small print about the reasons for the increase this year including the GST and my “Army Pay”.

If the ADF can do the impossible with your pay, they will. It is never in your favour and rarely synchronised with Earth time. Einstein’s theories come to life as time stands still.
INSURANCE
The current insurance system for Medical Officers deploying in the field is inadequate. I was fortunate in having a codicil to my own civilian private practice sickness and accident policy to cover my deployment in East Timor. However, I was the only medical practitioner in the ADF where this occurred (Australian Casualty Company). In general, Reserve Medical Officers are not covered in the event of illness or serious mishap on returning to Australia and the Army pay, which would continue, would be totally inadequate to meet their costs. Many would go bankrupt. I also took out Army insurance for ‘body parts’ insurance at a cost of $500.00, which covers me up to $100,000.00 in the event of loss of a limb, but this did not cover illness. The most common cause of casualties in East Timor to date have been malaria and dengue and, for a non-combatant, disease is far more likely than trauma.

Do not provide medical officers with adequate insurance cover for their practices in case of illness as this may encourage malingering.

PATHOLOGY AND VACCINATIONS
On deployment to East Timor, vials of blood are taken for DNA analysis, serology, etc. On three occasions the blood they had taken was lost as I am sure it was because I had no defined unit to which it was sent. Most of my vaccinations I arranged myself, as I could not trust the ADF to get it right. This included vaccination for Japanese Encephalitis virus. No post deployment blood was taken to check whether I had had a rise in dengue titre. I did this at my own expense out of interest in view of the possibility of further deployment. I arranged my own chest x-ray on return as I had seen a lot of tuberculosis.

Where possible lose blood for DNA analysis in case the officer goes missing, as this will reduce pension claims from his widow and delay vaccinations to the very last minute as they can all be given through the same hole.

DARWIN
After laborious and frequent visits to Enoggera and eventually to the Field Hospital where countless amounts of paper work were done as well as powers of attorney, etc., we were finally deployed in Darwin for a week of pre-deployment checks. This was a considerable waste of time as most of the information had already been done and this could have been cut down to a few days at most. Even more weapons tests were done despite my having done them the week before.

One of our contingent, a 60 year old surgeon from Perth who had been asked to go to East Timor was inconvenienced to such an extent that even on the day that we left (we were about to embark on the HMAS JERVIS BAY), he was asked to disembark from the ship as there was still some doubt whether he could be deployed because of his short-sightedness despite a deployment in Bougainville only a few months before.

Where possible reduplicate all services on deployment, as this is a double check just in case further military incompetence occurs. “Stuff around” specialists as much as possible.

FOOD AND WATER
In East Timor, the United Nations decided that they would start buying their supplies, including water, from Indonesia as this was much cheaper than the supplies from Darwin, which came over while INTERFET was there. I casually observed to one of my medical colleagues when we were drinking Indonesian bottled water, that I would not be surprised if this had a high coliform count. A week later the water was found undrinkable (for the ADF, unpalatable meaning that it should not be put in pots) and a hazard to health. Consequently, tonnes of bottled water were destroyed in our hospital and I am sure elsewhere as well. When in Darwin we had been given a lecture on the need for “mass hydration” while in Timor (curious concept for a Queensland) and now the CO’s daily Routine Orders had us restricted to 2.5 litres of drinking water a day. It used to be 36 degrees and 80% humidity in the ICU tent at 8 am. We started drinking our own urine but no one noticed the difference. The quality of food arriving also fell while I was present. We were even importing juice and other products from as far away as Germany.
Where possible, buy provisions and water supplies locally as this will ensure a more speedy resolution to the conflict. Always buy food and water from the cheapest bidder because the food will be so bad that your troops will eat less and the middleman gets a bigger slice of the pie.

**STRAIGHT-LACED**

One day we received a written directive from Canberra on how we should lace up our boots (I kept it as a lasting souvenir of East Timor and shall frame it along with the “Water Orders”). The method prescribed was not possible with the new ADF boot.

By rearranging the deck chairs on the Titanic, the impression of enlightened efficiency is conveyed as a control of the minuitae in one’s life. The reader will be reassured that no direction was given about how to drink tea or crack open a boiled egg (viz. Gulliver’s Travels).

**THE TOWER OF BABEL**

The UN Military Hospital, Dili consisted of a combined force of Australian, Egyptian and Singaporean Medical Units. The Egyptian contingent never integrated well with the Australian contingent having come from a different linguistic, religious and cultural background and also with disparities in training, cultural mores and incompatible equipment. They did not think that women should go running around in gym shorts and sweaty tight T-shirts and share sleeping quarters in the same rooms as men. Although they had regular prayers, I never saw an ADF Chaplain at the Hospital in the time I was there and no church services occurred on Sunday. I was left with the impression that the ADF was a secular organisation of a country nominally Christian in a post-Christian era.

Where possible combine different sub-units from widely diverse cultural and linguistic backgrounds, providing an SBS/multicultural flavour for the medical officer tourist. This will greatly enrich his experience on his overseas paid holiday with the ADF. This is affectionately called, by UN military apparatus, the “Tower of Babel” concept of military planning.

**MANPOWER**

The pool of Medical Officers required for East Timor is quite small with a growing demand on it with some officers doing as many as three rotations in one year.

A small cohesive force of Medical Officers, rather than a large pool with younger medical officers coming through, provides a tight clique and discourages involvement from younger members and keeps out the “riff raff”. This also rewards the “gong-collectors” who compete at dining-in nights and Consultants’ Dinners for the most asymmetric mess dress (For the novice, “gong” is the affectionate term for a medal).

**EXTRACTION**

On “extraction” (an ADF term not to be confused with wisdom) from East Timor, I returned soon after to a busy private practice feeling dysthymic, tired, worn out and culturally maladjusted for some weeks. At no stage upon return was there any physical, psychological or other follow-up of any medical officers. Not even a chest x-ray or a dengue titre. The promised post deployment check-up did not come. I had done my bit. The Service was rendered like a stud bull and forgotten until next time the sacred cow is in season.

As soon as the Medical Officer has done his “thing”, forget about him until he is needed next time. This helps his integration/insertion back into civilian life.

**WHAT’S IN A NAME?**

Nearly a year after returning from East Timor I received a letter from Health Services, presumably in Sydney (exact address not stated), stating that an update of all my personal details and Army training was required for a new database. However, this had been sent to my address from seven years ago (two houses ago) and it finally reached me by serendipity and the goodwill of a kindly postman. On ringing up to inquire about this, I found out that none of the copious information I had provided to the ADF on deployment to East Timor had reached the central
Health Services Section Furterbunkernericenter
(I still don’t know on what part of the planet it is
located). My name was spelled incorrectly, the address
wrong and my Army details inaccurate.

Where possible send correspondence to the
Medical Officer’s former addresses, usually two
addresses ago and at least seven years out of
date to confuse the enemy in case of mobilisation
in the event of the “W” word. Never use a tele-
phone book or the White Pages on the Internet,
as it may be inaccurate. We all know that medi-
cal practitioners hide their practice addresses
and phone numbers from their patients. This is a
job for covert operations or Military Intelligence.

THE “GONG”
I waited for nearly a year to receive my Australian Active
Service Medal. In October, six months after returning to
Australia, I wrote to Victoria Barracks, Brisbane inquiring
about the medal as some others had already received it.
I received a reply in March five months later saying that
it would arrive in two weeks. Initially, they said they had
no record of my having served in East Timor. In June
2001, I found out from two personnel in the Medals
Section, Melbourne that a large batch of medals had been
sent to 1 Royal Australian Regiment in Townsville, mine
included irrespective of whether you lived in Townsville
or Bourke. Excited at this news, like a beagle (or White
Rabbit) sniffing a new lead, I made inquiries via the
Regimental Sergeant Major at IRAR who dutifully readdressed
the medals to the respective units (the Good
Lord is two ranks below an RSM). However, no one in
IRAR had taken the trouble of writing down where the
respective medals were sent. Mine has never been seen
again but I am sure will be found by archaeologists
before the next glaciation.

Where possible send medals of Medical Officers
to another State or unit so as to keep them in
suspense and to confuse the enemy. This also
courages them to seek another medal and
another foreign battlefield and to encourage the
black market in second hand replica medals
and miniatures (made in Indonesia).

MEDAL PRESENTATION
Several of my Medical Officer colleagues who have
served in East Timor have had their medals sent to
their home address or a pigeonhole at Enoggera.
No ceremonial presentation was done, as this
appeared a complete waste of time. I was asked if
I wanted it sent to my home address.

Devalue the Australian Active Service Medal
and the sacrifice made by the Medical Officer
and his family as much as possible.
Presentation of medals on ceremonial occa-
sions is bad for the ego and only encourages
pride in one’s achievement and recognition
of the service rendered by the reserve Medical
Officer.

TRAINING
When I was in East Timor, one RAAF Medical
Officer was surprised that I had not done a course
in Aero-medical Evacuation (AME) or Emergency
Medicine (EMST) by the ADF. I have never been
asked and I know of one officer who had to pay for
his own airfares to Richmond to attend one. I had
been in the ADF reserve since 1998. I pay to go to
trauma and military medicine conferences myself

Don’t provide any military medical training.
You will just have to make do. If you are keen
pay for yourself as the ADF Reserve is a
charitable institution.

JOURNALS AND ADDRESSES
I recently asked to receive the free ADF Health, a
journal. I was told they did not have my address.
I told them a RAAF Reserve Specialist across the cor-
rider from me wanted it too and had given them his
address. They sent the details of the subscription to
me, and one for him and asked me to give it to him,
as they did not have his address although he had just
come back from a tour of duty in Bougainville. I
suggested they even try the phone book, Internet
White Pages again or ASIO (we have all had ASIO
security clearances).
The ADF has too many disparate arms like a psychotic octopus strangling itself in paper. Commonsense is in short supply. A problem solved in five minutes in civilian life takes forever in the ADF and is worse in the Reserve.

CONCLUSION
I have since been asked to go to East Timor but I am presently unenthusiastic despite the ability of the Army to make easy deployment verging on an art form. The transition from a busy private practice into the “Alice in Wonderland” world of the ADF is not easy and I believe there is much to be done by the ADF to ensure that Medical Officers do not become disaffected. I believe that military incompetence in the ADF is alive and well and that my entreaties for change by letters sent through the chain of command have, as expected, fallen on deaf ears and will continue to do so. We need enlightened lateral thinking individuals at all levels, especially at the top, to institute change and also a systematic and cultural shift to an efficient, “smart” and innovative ADF for this “lucky” country languishing perilously beneath the Pacific “ring of fire”.
Re-arranging the deck chairs on the Titanic is not enough; the “plus ça change, plus ça la même chose” mentality. As the promotional methods, the personality types who find the services attractive and the current military culture preclude critical innovation, I doubt that any systemic change will occur. However, if it does not, the “Clever Country” may not be so lucky in a larger or unpredictable conflict as occurred on 11th September 2001 and subsequently.

To quote a Latin maxim:
“Si vis pacem, Para bellum”.
“If you want peace, prepare for war”.

LEGAL DISCLAIMER:
The characters in this paper are purely fictional and any resemblance to any rabbit in real life is purely coincidental. In order to protect the aforementioned innocents, the Royal Australian Legal and Veterinary Corps have subpoenaed and thoroughly perused the above document and have concluded that no rabbits, rodents or avian species have been defamed, and nor can the above said author or White Rabbit be sued under Common Law, tried by a Court Marshall or by the Court of the Queen of Hearts for matters raised in this document.

REFERENCES:
**Review Articles**

The Army Resuscitation Bay

"Our patients did not choose us. We have chosen to treat them. We could have chosen another profession, but we did not. We have accepted the responsibility for patient care in some of the worst situations: when we are tired or cold, when it is rainy and dark, and often when conditions are unpredictable. We must either accept this responsibility or surrender it. We must give to our patients the very best care that we can — not while we are daydreaming, not with unchecked equipment, not with incomplete supplies, not with yesterday's knowledge, and not with indifference."

**Introduction**

The layout, equipment and personnel for Army Resuscitation Bays are currently governed by standardisation protocols outlined in the Land Command Health Services publication entitled "The Resuscitation Standardisation Handbook". Resuscitation bays at all levels of Army health support, be they Level 1, 2 or 3, are required by doctrine to be standardised in accordance with this publication. It is recognised that standardisation in the approach to the equipment and configuration of the resuscitation bays facilitate and expedite the care given at each level of health support within the Army.

Resuscitation involves the initiation of treatment for injuries or illness, to restore haemodynamic and respiratory parameters to normal, until the defect has been controlled by definitive intervention. For resuscitation to be effective in reducing mortality and morbidity from injury or illness, facilities and equipment must be appropriate for credible medical contingencies.

The resuscitation standardisation handbook makes reference to equivalent civilian Gold Standards for resuscitation, such as the Australian Resuscitation Council Guidelines, and the need for protocols for casualty resuscitation to conform to accepted management of medical emergencies. Unfortunately, the handbook does not include an analysis of medical emergencies that are considered likely to be encountered by ADF medical teams, either at home or abroad on operations. Therefore, there are deficiencies in the capability provided by current standardisation to meet 'credible' medical and surgical emergencies.

Medicine is a rapidly evolving field, which necessitates frequent review of our current practice, particularly as it compares to equivalent civilian standards and best practice. The need for revision of the current capability within the resuscitation bays is well recognised by many ADF doctors. The topic is discussed frequently by ADF doctors, at conferences, informal gatherings and on the ADF doctors email chat group - ADFDOC. There are also concerns about currency and competency of clinical training for doctors, nurses and medics in Army, but this is beyond the scope of this article. Rather, this article will focus on equipment and drug capabilities pertinent to resuscitation.

This article has been written to provide a concise overview of, and justification for, suggested changes to the current standardised resuscitation bay. The overall aim is to outline suggestions for capability upgrade to the existing standardised Army resuscitation bay.

**Appropriate Benchmarking**

There is an expectation that members of the ADF will receive a safe standard of health care benchmarked against common civilian practice. Resuscitation bays do not, and should not, endeavour to benchmark themselves against definitive care facilities. In most cases the subsequent definitive care of the patient would normally occur elsewhere. Army resuscitation teams need to be able to stabilise critically ill medical and surgical patients. Doctrinally, resuscitation bays are geared towards resuscitation of up to two critically ill patients at any one time. Principles of trauma resuscitation are supposed to be in accordance with

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2. CAPT Ben Butson is the RMO 1st Battalion Royal Australian Regiment and will soon deploy as the SMO AUSBATT VIII in Timor Leste. He was an Artillery Officer before becoming a doctor and has served 16 years in the ARA.
principles of the Early Management of Severe Trauma (EMST)* as defined by the Royal Australasian College of Surgeons.

An appropriate benchmark for Army’s resuscitation bays would be the treatment room or resuscitation bay of a small hospital servicing a rural or remote Australian community. Such a facility has similar constraints in terms of isolation, staffing and equipment, and the need to stabilise prior to retrieval to a more definitive facility. Clearly the patient population demographics differ between Army and most remote communities but, in terms of the level of resuscitation capability, this would be an appropriate benchmark.

This, however, begs the question: “Would an Australian soldier be better off being treated for major trauma or serious medical illness in a remote Australian community hospital, or the standardised Army resuscitation bay?” At present, the equipment, drugs and protocols available in many remote hospital resuscitation facilities leave the Army’s standardised resuscitation bays wanting. Whilst it is important to recognise that requirements for mobility and robustness do limit Army’s health facilities, technology today provides ready solutions for matching benchmark capability within these constraints.

A similarly useful benchmark for resuscitation may be found in the Australasian College of Emergency Medicine (ACEM) policy document entitled “Minimum Standards of Transport of the Critically Ill”. This document details the capability requirements and standards for a small team tasked with the immediate resuscitation of a casualty prior to transport to a more definitive care facility. The document details the nature of medical and surgical emergencies that need to be within the capability of such a team. Some of the emergencies catered to by the ACEM document may be beyond the requirements of Army’s patient population but the majority are not. For example, the document details the requirements for drugs and equipment to be able to handle cardiac arrest, hypotension, hypertension, cardiac arrhythmia, myocardial infarction, pulmonary oedema, anaphylaxis, bronchospasm, hypoglycaemia, hyperglycaemia, raised intracranial pressure, convulsions, agitation, pain, emesis and electrolyte abnormalities. There would be few doctors who would disagree that all of these medical emergencies, and others, are credible within Army’s patient population.

**RESISTANCE TO CHANGE**

Before continuing with the article, it is important to discuss some of the barriers to change, which are outlined below.

**Cost**

The realities of the Profession of Arms mean that Defence expenditure needs to be directed at the greatest good for the greatest number. Clearly, the budget for medical facilities is not limitless. The proposed changes to be discussed in this paper are cognisant of this fact. Cost benefit analyses for change need to look beyond fiscal considerations though, to consider the indirect costs of potentially preventable morbidity, mortality and loss of morale. Recent operations involving the Australian Defence Forces have thankfully not been afflicted by large numbers of casualties. This is not to say the situation will stay that way for Australian soldiers deployed to higher intensity conflicts in the future.

**Do Such Emergencies Happen Often Enough?**

The frequency of medical emergencies must not be the sole determinant of resuscitation capability planning. In many areas outside of Health, the Army plans for, and procures equipment to cater to, the worst case scenario – no matter how infrequently it occurs. For example, Australian soldiers have rarely been threatened by hostile aircraft in the past 20 years and it is certainly true that Rapier anti-aircraft missiles are expensive! Nevertheless, the consequence of not having them, in the unlikely event they are needed, would be loss of life. So millions of Defence dollars are rightly spent on anti-aircraft capability. It is not good for morale if Australian soldiers are required to place themselves in harms way, without the secure sense that credible contingencies are planned for, even if they are not daily occurrences.

Many ADF health professionals would echo the sentiments that good fortune, more than good planning, has prevented Australian defence personnel from dying, or suffering significant morbidity due to resuscitation deficiencies. This is not to detract from medical planning and the contribution of medical staff, who currently do the best they can with what they have. But it should be recognised that preventable death and disability may occur in the future as a result of problems with existing resuscitation capabilities. Perhaps
recognition of this is evidenced by the fact that resuscitation teams that have deployed on recent operations, such as those in Timor Leste (formerly East Timor), have not been limited to standardised equipment. Rather, additional equipment and capability has been forthcoming. But a ‘just in time’ philosophy for the provision of resuscitation equipment doesn’t allow for appropriate staff training and familiarisation.

The changes proposed in this article do not seek to transform ADF resuscitation bays into unwieldy definitive care facilities capable of resuscitating every known medical emergency. Consideration, however, must be given to the fact that there are credible medical emergencies for which Army resuscitation bays are not yet well equipped. The key features of the standardised bay, and proposed changes, will be now discussed in more detail.

AIRWAY

The current level of capability for immediate airway management within the resuscitation bays is quite acceptable overall. The standardised airway mask, however, for oxygen delivery is currently the Hudson mask. The problem with the Hudson mask is that it can deliver, at best, an inspired concentration of oxygen of only 60%. Its use is not in accordance with accepted principles of oxygen delivery to the critically ill patient. Rather, many authorities (such as EMST®) advocate the use of a non-rebreather mask for oxygen delivery, which can deliver closer to 90% inspired oxygen. The non-rebreather mask can be modified to become a standard Hudson mask, but the converse is not true. Hudson masks should be replaced by non-rebreather, bag reservoir masks.

More definitive airway management is well catered for in the standardised resuscitation bay, with equipment for airway adjuncts, orotracheal intubation and surgical airways being available. Laryngeal Mask Airways (LMA) are not currently included, and they are increasingly being accepted as important tools for airway management in the resuscitation of the unconscious patient. LMA have been shown to be faster and easier to insert than orotracheal tubes and have been found to be particularly useful tools in airway management in trauma where resuscitation teams are relatively inexperienced. Interestingly, they have also been compared favourably to endotracheal intubation where the doctor is wearing nuclear, chemical and biological (NBC) warfare equipment. For reasons of airway protection from aspiration of gastric contents, the ‘gold-standard’ for airway management in the unconscious patient will probably continue to be a cuffed endotracheal tube for the immediate future. But there are definite moves towards the use of LMA in resuscitation. They are now being included in airway management teachings in both the EMST and the Prehospital Trauma Life Support (PHTLS) courses. LMA should be included in the Army resuscitation bays.

BREATHING

Ventilation

Existing capability to ventilate within the resuscitation bays is rudimentary. Standardisation provides for a bag-valve-mask only. Some of the self-inflating ventilation bags in use in Army resuscitation bays do not have patient-relief (‘pop-off’) valves, which are designed to prevent barotrauma during ventilation. This in itself is a safety issue, because relatively untrained and inexperienced medics could be using the bag ventilator on an intubated patient, with no safety mechanism to prevent the generation of pressures in excess of 60 cm of water – thus causing iatrogenic barotrauma. Moreover, with the doctrinal requirement to manage up to two critical patients at once, the use of a medic for prolonged hand ventilation, pending evacuation, is a wasted resource.

A mechanical ventilator, such as the already in-service OXYLOG™ ventilator, provides a safe, effective alternative. The OXYLOG is already used in a number of resuscitation bays but it is not currently a standard item. It should be. It is light, robust, simple and safe. Currently, all Australian Navy sick bays are equipped with an OXYLOG, in recognition of its role in resuscitation, stabilisation and preparation for transfer of the unconscious patient. The AECM policy for minimum standards for transport of the critically ill patient explicitly outlines the requirement for a portable ventilator with disconnect and high pressure alarms, such as OXYLOG.

Capnography

Army resuscitation bays may well need to manage intubated and ventilated patients for ‘short’ periods of time before evacuation to a definitive care facility can occur. For a junior doctor managing such a profoundly unwell patient, any definition of ‘short’ would prob-
ably seem too long, particularly without adequate monitoring to detect changes in patient status. Nevertheless, the reality is that a ventilated patient may well be in the resuscitation bay for anything up to an hour, and occasionally even longer, before appropriate evacuation assets can be rallied.

Responsible monitoring of the unconscious, ventilated patient mandates capnography. This is in accordance with EMST principles, as well as policy guidelines from ACEM and the Australian and New Zealand College of Anaesthetists. Capnography is useful in trauma and other resuscitation not only for confirmation of correct endotracheal tube placement, but also for assessment of adequacy of ventilatory parameters; circuit disconnections, leaks or valve failures; tube kinks or obstructions; adequacy of muscle relaxation and assessment of ventilation/perfusion difficulties. Rudimentary capnographic analysis is easily learned by junior doctors with basic anaesthetic experience.

At present the facility for capnography exists in Army, by way of ‘mainstream’ samplers that can be connected to PROPAQT. Unfortunately, many of the PROPAQs currently in service have been procured without the necessary additional component to enable capnography. It is interesting to note that capnographic monitoring is usually available for ADF aeromedical evacuation (AME) teams, which is very appropriate. Having said that, it may well be that the doctor in the resuscitation bay has to manage the patient for greater length of time than the AME team. The existing facilities in the Army resuscitation bay do not allow for optimal assessment and monitoring of ventilation for critically ill patients.

CIRCULATION
Defibrillator
The treatment of circulatory collapse, or shock, is a vital component of capability for Army resuscitation bays. In general, they are well equipped to deal with it; however, a key capability deficiency is in the existing in-service defibrillator – the HEARTSTART™ 3000.

The problems with this system have already been identified to a degree and the system is currently being phased out, to be replaced by the HEARTSTART 4000.

The updated system offers important improvements in the ability for resuscitation teams to manage credible cardiac emergencies. For example, the HEARTSTART 4000 offers the option for synchronised DC cardioversion. Without this capability, Army resuscitation bays have no way to treat haemodynamically compromised supra-ventricular tachycardia. This emergency is one of the more common cardiac emergencies to confront any young patient population.

The HEARTSTART 4000 also offers the option of being able to conduct external cardiac pacing. The capability for external cardiac pacing provides a potentially life-saving treatment for patients with circulatory compromise secondary to abnormally slow cardiac rhythms.

An alternative to HEARTSTART 4000, currently in use in most Queensland rural hospitals, is the LIFELPK™. This system offers advantages over the HEARTSTART 4000 in that it offers everything HEARTSTART 4000 offers, but includes capability for 12 lead ECG and monitoring, including capnography. Nevertheless, the HEARTSTART 4000 is a good system which offers a degree of capability enhancement over the existing defibrillator. To optimise the benefits of the HEARTSTART 4000, however, Army should invest in the optional extra equipment for external pacing.

MONITORING
The PROPAQ is an effective system but Army resuscitation bays should have the upgraded system that allows for capnography as outlined. A further problem with existing capability is that there is no facility in the standardised resuscitation bay to conduct a 12 lead electrocardiograph (ECG). This is considered a basic diagnostic ability. There would be few doctors’ surgeries in the civilian sector that could not offer this basic test. PROPAQ offers only leads I, II and III. Many doctors would agree this is deficient. HEARTSTART 4000 will enhance ECG capability somewhat, but, for the diagnosis of cardiac emergencies, a 12 lead ECG remains an easily achievable Gold Standard. Modern ECG machines can be as small and portable as a palm top computer.

PATHOLOGY
Emergency resuscitation can be augmented by rudimentary pathology services. For Level 2 and Level 3 facilities, there is more than adequate capability by virtue of their organic pathology services. For Level 1 facilities, there is currently no provision for even basic pathology, such as analysis of blood gases, haemoglobin estimation, and simple electrolyte analysis. These parameters are
provided in many remote civilian communities in Australia by the use of the ISTAT™ pathology system. ISTAT is currently available in Army, but not provided to resuscitation bays. It is cheap, lightweight, portable and quite user-friendly. It would entail some additional training for medics, perhaps on their Advanced Medics Course, but would provide a useful capability upgrade for resuscitation bays. Recent experience with RAAF resuscitation teams deployed after October 12, 2002 in Bali highlighted the problems with treating patients, such as severe burns patients, without ready access to basic pathology.

An additional pathology capability that may prove beneficial is that of the cardiac troponin bedside test kit. This is a simple blood test kit, not requiring a bedside test kit for pregnancy or malaria, which rapidly alerts the treating doctor to the presence of molecules in the blood that indicate cardiac damage. Cardiac troponins are reliably detectable from 4 hours following damage to the heart muscle, as may occur with a heart attack. The test kits are relatively inexpensive, and are not much bigger than a credit card. The additional information obtained by this simple test may one day mean the expedient, lifesaving transfer of a patient with hitherto undiagnosed chest pain or atypical presentation of myocardial infarction.

RESUSCITATION DRUGS
Cardiac Dysrhythmias
A review of resuscitation drugs carried by ADF doctors in THOMAS medical packs is currently underway. The same issues that prompted the review pertain to the drug restrictions in resuscitation standardisation. Currently, no drugs are available in resuscitation standardisation to treat various cardiac emergencies such as supra-ventricular tachyarrhythmias. Likewise, recent advances in the drug treatment of cardiac arrest have not been reflected in resuscitation standardisation protocols. Amiodarone, in particular, would be a useful drug for both contingencies, in accordance with accepted treatment guidelines.

Acute Coronary Syndromes
Resuscitation teams treating a patient having a myocardial infarct are obliged to expedite transfer to an appropriate treatment facility, normally a hospital equipped with cardiac monitoring, intensive care and possibly invasive cardiac interventions. Interventions in the resuscitation bay should never slow this process down. Nevertheless, on exercises and operations, there will be times when such patients will need to be managed in Army resuscitation bays for a time. It is not unlikely that such an emergency could be presented to a Level 1 facility deployed remotely, just as MI may present to a remote community hospital. The ability of a remote civilian hospital to initiate appropriate lifesaving treatment does not in any way obviate the need for evacuation to a more appropriate facility but the ability to provide appropriate early intervention may save lives. The same is true for remotely deployed resuscitation bays.

At present, MI could not be managed in the standardised Army resuscitation bay to anywhere near civilian equivalent Best Practice. Standard treatment for a patient suffering an acute coronary syndrome in a civilian rural hospital treatment room, or even in the back of many civilian ambulances, would be likely to include 12 lead ECG analysis, bedside troponin test-kit, aspirin and possibly anti-coagulation or thrombolysis. Currently, Army resuscitation standardisation does not include aspirin. The failure to provide aspirin for an acute coronary syndrome nowadays equates to indefensible medical incompetence. Aspirin must be on the resuscitation bay drug list.

With heart attack, the adage is that ‘time is muscle’. Any delay in the initiation of interventions to reverse coronary thrombosis will result in a greater degree of cardiac ischaemic damage. Advances in the use of thrombolytic drugs in recent years have not been reflected in the current capability of the Army resuscitation bay. Agents such as reteplase (rapilysin) are easy to use, effective treatment for acute MI. Rapilysin can be stored between 2 - 30 degrees. A cheaper alternative for thrombolysis would be streptokinase; however, this drug is not as easy to use as reteplase.

Resuscitation standardisation should also include a low-molecular-weight heparin, such as enoxaparin (clexane). This drug obviates the need for problematic anticoagulant monitoring and is now standard treatment for unstable angina. Clexane has the additional benefit of being standard treatment for venous thromboembolic problems, such as deep venous thrombosis (DVT), which do not occur infrequently in Army’s patient population. The drug has a storage life of two years.
below 25 degrees, which is achievable even at Level 1 facilities, which usually deploy with a small 12 or 24 volt car fridge.

**PAEDIATRIC AND OBSTETRIC EMERGENCIES**

Recent operational experience has highlighted that ADF resuscitation teams frequently find themselves treating a range of medical emergencies that would normally be regarded as outside their primary role. Certainly paediatric and obstetric emergencies fall into this category. Nevertheless, the increasing tendency to humanitarian and peace related operations have necessitated some rethinking of the level of resuscitation that should be available for such emergencies. At present, resuscitation standardisation is not geared at all to obstetric and paediatric emergencies. For the most part, this is appropriate. But units likely to be involved in the treatment of civilians at short notice should have on their Single Entitlement Document (SED) a Paediatric and Obstetric THOMAS pack. Such units would include those with roles in Services Protected Evacuation (SPE) or Services Assisted Evacuation (SAE), such as the Health Support Company in support of 3 Brigade. These THOMAS packs are currently available through the Army supply system.

**THE RESUSCITATION BAY TENTAGE**

Army resuscitation bays presently use anything from Trelleborg inflatable shelters to standard canvas 11x11 tents. Lighter tents have been advocated to standardise with the rest of the supported unit or formation, to reduce the supply chain burden for resupply, to enable swift deployment of the resuscitation bay, and to minimise weight and size for transport purposes. The argument that standardisation of resuscitation shelters with other tentage should occur to reduce supply chain burden does not hold weight. The supply system needs to supply specialised equipment for specialised roles. Army does not strap 105mm gun barrels on to Landrovers just because Leopard Tanks don’t standardise with the vehicle fleet. Specialised roles mandate specialised equipment supply.

Unfortunately, 11x11 tents do not provide a medically appropriate shelter for advanced resuscitation. They are not dustproof. Simple standards of infection control and maintenance of sterility are therefore not possible. The tents are not able to be climate controlled, meaning that a patient being resuscitated for heat illness in a sealed tent with blackout curtains in a tropical environment may well fare worse for the trip into the resuscitation bay.

There is endorsement for a change in the resuscitation bay shelter arrangements at senior Army Health levels, but as yet the appropriate shelter hasn’t been identified. DRASH has been proposed, and is being trialled in Army in various units with specialised roles, but is an expensive option. It may turn out that a locally designed and manufactured canvas shelter, with a sealed floor, climate control facilities and dust proof layout may prove as effective. As yet such a shelter has not been designed or suggested for prototyping or tender process.

**CONCLUSION**

It is time for a review of the current level of capability provided by the Army standardised resuscitation bay. The management of many medical emergencies is a challenging experience for the majority of ADF doctors, nurses and medics who are relatively inexperienced in such emergencies. To make matters worse, the current level of capability of Army resuscitation bays does not allow clinicians to implement basic lifesaving measures to the degree to which they are trained.

The changes discussed in this article are not expensive. The primary role of the Army resuscitation bay, and its need to be flexible, light and portable has been given due consideration. If appropriate changes are implemented, then potential medical and surgical emergencies, beyond the current level of capability, will be managed appropriately in the future. It would be a tragedy for Australian soldiers to die unnecessarily due to outdated and poorly equipped resuscitation standardisation.

In summary, the following changes to Army resuscitation standardisation doctrine are recommended:

- Army resuscitation bays benchmark their level of capability against appropriate civilian equivalents, such as well equipped emergency departments for remote communities.
- Non-rebreather oxygen delivery masks replace Hudson masks.

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3. 2 DVTs occurred in the 1st Battalion Royal Australian Regiment in 2002 (Unpublished data).
• Laryngeal Mask Airways be included in Airway stores.
• Concerns regarding safety of bag-valve-mask devices without patient relief valves, and their use by relatively untrained medics, be put to the ADF consultative group for Anaesthesia.
• Each resuscitation bay have an OXYLOG ventilator or similar.
• Each resuscitation bay has a PROPAQ fitted for the capability to conduct mainstream capnography.
• The resuscitation bay be equipped with the capability to perform 12 lead ECG.
• The HEARTSTART 3000 be replaced in all resuscitation bays with a HEARTSTART 4000, or equivalent, such as LIFEPAK 12.
• HEARTSTART 4000 be procured with the option for external cardiac pacing.
• ISTAT be incorporated in resuscitation standardisation.
• Cardiac Troponin kits be included.
• The resuscitation standardisation drug schedule be updated.
• Aspirin, amiodarone, enoxaparin and a cardiac thrombolytic agent be included in the drug schedule.
• Consideration be given to the most appropriate method for equipping resuscitation teams with timely equipment and training for credible paediatric and obstetric emergencies in the event of deployments which may involve such emergencies.
• Tentage for resuscitation bays be designed, or put to local tender, to provide a dust-proof, climate controlled, lightweight, rapidly deployable facility.

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Outpatient Based Injury Management versus Inpatient Rehabilitation

G.E. Tilbrook

Ideally, these interventions should be conducted at the workplace or linked to the workplace and directed to return to work.

Michael K. Nicholas, PhD

ABSTRACT

The Australian Defence Force (ADF) presents a unique situation in workplace injury management. The workforce is biased towards a younger population, with higher demands on physical fitness and a higher degree of ‘risk related’ activities. Consequently, the majority of injuries tend to be acute musculoskeletal ‘sporting’ type injuries. Unlike civilian workplaces, facilities are provided on site specifically for management of these injuries.

This review briefly examines relevant literature in its consideration of the arguments for provision of an outpatient work based injury management program, rather than an inpatient based model, at the First Health Support Battalion. This paper appraises the current best practice for rehabilitation and injury management programs. Physiotherapy injury management systems and programs, as well as psycho-social aspects of injury management, are discussed. The latest Defence and WorkCover NSW policies support using the work place as a means of rehabilitation. The current outpatient system takes in all the ideals of the most up to date defence and civilian policies and produces a workable model for injury management.

INTRODUCTION

The ADF, and particularly the Australian Army, presents a unique situation in workplace injury management. The workforce is biased towards a younger population, with higher demands on physical fitness and a higher degree of ‘risk related’ activities. Consequently the majority of injuries tend to be acute musculoskeletal ‘sporting’ type injuries, although there is a reasonably large prevalence of chronic or recurring injuries.

The ADF is also unique in its ability to provide on site workplace facilities and medical and specialist personnel for the management of these injuries. These personnel include general practitioners, surgeons, physiotherapists, radiographers, pharmacists and psychologists, who are provided for the management of these injuries. This is in contrast to the civilian working population where facilities and medical support are rarely on site.

PROGRAMS

Civilian inpatient systems often do not translate well to a military population. Civilian case mixes are generally much broader due to greater age variation and a more diverse range of activity levels. These case mixes also span many more areas in which inpatient rehabilitation is appropriate such as stroke, spinal, amputee

2. CAPT Gina Tilbrook is the O.C. Physiotherapy for 1st Health Support Battalion in the Liverpool Military Area.
and head injury rehabilitation. The ADF presents a distinctive situation where a high level of fitness is required for deployment and therefore even simple musculo-skeletal injuries may require extended time and treatment to facilitate full recovery. This is in contrast to civilian standards due to the need for ADF members to sustain a high level of risk related activity. American military rehabilitation facilities do not provide a good template for ADF facilities to follow as they also deal with older members discharged from the military, presenting a whole new demographic and group of problems.

Current procedures were developed in line with Item 12 of Defence Instruction (General) DI (G) PERS 19-19. That is, return members to normal duties in a timely, efficient and cost effective manner with minimal disruption to an ADF Unit activities. This instruction has now been superseded by SAFETYMAN Volumes One and Two. One of the fundamental principles of this new policy is ‘Workplace based rehabilitation’. SAFETYMAN states that:

“As far as possible the workplace should be used as the means of rehabilitation. Using meaningful and productive duties in the workplace increases the members’ ability to perform those duties and maintains their contact with the workplace.”

In accordance with both old and new policies, the current approach in this facility aims at keeping members in their unit and encouraging participation in appropriate unit activities at a level compliant with the members restrictions. The emphasis is on returning the member to normal work duties, activities of daily living (ADL) and normal physical training, and keeping members at work (restricted duties if necessary) whilst undergoing injury management. The participation of an ADF member in the above programs allows minimal disruption to their normal work day. The vast majority of these personnel are able to perform modified, if not normal, duties. They attend on a part time or outpatient basis with programs usually scheduled during unit Physical Training (PT) timings. The most up to date Work Cover policies and findings support this work based approach.

There are a minority of patients with musculoskeletal injuries who would be best managed in the ward. For the small number of patients involved, this does not warrant any great additional infrastructure and can be appropriate. However, the majority of patients with musculoskeletal injuries are best managed on an out-patient basis, with good communication between medical staff and the members’ workplace. Reasons for patients with musculoskeletal injuries staying on the ward may include uncontrolled pain requiring IV analgesia, unreasonable or inappropriate travel requirements, personal circumstances or inability to care for themselves. As most of our patients do not fall into these categories, inpatient rehabilitation is inappropriate for them. These members should be returning to normality as soon as possible rather than being institutionalised by remaining in hospital unnecessarily.

Waddell and Burton present strong evidence for advising patients in the acute and subacute phases of injury to continue ordinary ADL as normally as possible despite the pain. They demonstrated that this can give equivalent or faster recovery from symptoms, lead to shorter periods of work loss, fewer recurrences and less work loss the following year than traditional medical treatment. Patients with more complex or specialist management needs may be referred on to more appropriate facilities or specialist services and, as this would be in a small minority of cases, it would allow appropriate management to be cost-effective.

The support for inpatient based injury rehabilitation programs is usually based on the argument of ‘all under the one roof’, where the medical, psychological and physiotherapy services are more readily accessible and therefore are more effectively and efficiently utilised. This concentrated medical/rehabilitation management away from the workplace and other ADL theoretically should result in the speedier ‘rehabilitation’ of the soldier; however, current best practice suggests this is probably not the case.

**CURRENT BEST PRACTICE**

Current literature examining the effectiveness of injury rehabilitation supports early return to work and ADL. Waddell and Burton showed evidence that return to work rates can be enhanced by workplace arrangements designed to facilitate it. A report by Michael K. Nicholas PhD for Workover NSW in 2002 reviews current literature involving work hardening and conditioning rehabilitation programs. He emphasises throughout the report that current evidence supports
the resumption or continuity of ADL, including return to work as soon as possible, despite pain, as the preferred option for ‘non-red flag’ injuries.\textsuperscript{1}

Sanderson et al. and Waddell and Burton report that those who managed to stay at work (modified if necessary) with activity/work based programs, had better long term outcomes.\textsuperscript{10} The longer a person is away from work the less likely it is that they will return to work.\textsuperscript{11} The recommended effective management for acute musculoskeletal low back injuries with no evidence of red flags, is activity based rehabilitation involving resumption of normal activities, symptomatic pain relief, education and reassurance.\textsuperscript{15,16} Current best practice of maintaining the injured person in workplace based rehabilitation is in direct contrast to an intensive inpatient live in program away from the normal workplace.

Williams et al.\textsuperscript{17} found distance to be a big factor in their inpatient versus outpatient randomised controlled trial. This study was fraught with problems generalising to a wider population. This was due to a high rate of patient refusal of randomisation.\textsuperscript{18} Studies in this area consistently struggle with ethics, control group enrolment and problems with randomisation due to distance of facilities to patients’ homes.\textsuperscript{19}

Definition of treatments, study populations, similarity of treated versus control groups, generalisation of results and potential adverse effects of treatments are additional compounding factors in this area of study\textsuperscript{19}

At the sub-acute and chronic phases, programs that included pain management using behavioural principles and graduated exercises were more effective in returning the individual to the workplace. Individual and work-related psychosocial factors, known as yellow flags, are a strong predictor of future symptoms and disability.\textsuperscript{20,21} Cognitive behavioural programs are necessary to address and prevent entrenched behaviours such as activity avoidance, pain-related distress and fears of re-injury. These are more effective when linked to the workplace.\textsuperscript{22,23} Waddell and Burton concluded that there was:

“...strong evidence that individual and work-related psychosocial factors play an important role in persisting symptoms and disability, and influence response to treat ment and rehabilitation”.\textsuperscript{9}

**PSYCHOSOCIAL ASPECTS**

Psychosocial factors may include distress, unhelpful beliefs, fears, workplace issues, activity avoidance, pain responses, behaviour patterns and medication dependence.\textsuperscript{1} The review by Waddell and Burton actually indicates that psychosocial factors were better predictors of future disability than standard physical measures of injury and impairment.\textsuperscript{1} Outpatient management with a strong return to work focus avoids psychological problems with members becoming distanced from their unit and developing illness behaviour and attitudes. The member feels better in themself because they are contributing and not seen as “bludging”. It is also easier for the member to keep in touch with their supervisors, keep them informed and ensure their career and trade remain on track and the unit does not forget about them.

Treatment approach should be on an individual basis, taking into account personalities as well as injury/pathology, as motivation and psychological issues also play a large part in prognosis. Screening questionnaires, as predictors of outcomes, tested whether patients thought they would return to work, if they believed they had no personal control of their pain, and whether they thought continuing to work would worsen their pain. The prognosis of patients indicating that they did not feel they would return to work in the next two weeks, had no personal control of their pain and would be made worse by continuing to work were poorer.\textsuperscript{15} ‘Medicalisation’ of chronic low back pain may actually be a “contributing factor to the epidemic of disability.”\textsuperscript{15,21} It is imperative to reduce fear about musculoskeletal pain and avoid sickness behaviour.\textsuperscript{21} Encouraging early movement in the absence of red flag symptoms, is best practice and education via Physiotherapy can play an important role in this.

**PHYSIOTHERAPY AND INJURY MANAGEMENT**

The label “rehabilitation physiotherapist”, which is sometimes thrown around, is largely not applicable to the role of a Physiotherapist working with ADF members. Physiotherapists working in ADF establishments deal primarily with musculoskeletal sports injuries. The term “rehabilitation physiotherapist” in clinical Physiotherapy circles usually refers to neurological type rehabilitation (stroke/head injuries etc) and amputees, which are rarely seen day to day in ADF establishments. In general, the term ‘rehabilitation’ could be replaced with ‘injury management’ to specify
what is actually happening rather than giving visions of long term neurological rehabilitation.

On site, there are clinics for Orthopaedic Specialists, a Consultant Psychologist, Sports Physician and Neurosurgeon, which provide a comprehensive network for patients requiring these services to be referred from their Regional Medical Officer (RMO). Referral to other services such as radiology, pathology, physiotherapy, physical training instructors, vocational guidance, pain clinics, and counselling can also be made as appropriate. Physiotherapy injury management procedures are just one of the management options available to RMOs. 1 HSB is presented with almost the ideal situation. Our units and managers must find appropriate work for the member, who can access on site treatment facilities and can remain included in all appropriate unit activities. Furthermore, the members and their unit are responsible for the patient being compliant to their treatment regime, giving ownership to those involved. Injured soldiers must comply with rehabilitation programs and work restrictions, which are supervised and enforceable. Good communication with supervisors and managers is critical to the intent of restrictions being carried out. This is an area which could be improved upon through education of civilian and military health workers as well as unit managers and supervisors.

**CONCLUSION**

In summary, the current system complies with the policy and ideals of returning members to work as quickly as practicable, keeping them at work and in their unit. Current best practice dictates early return to work and that strong ties to the workplace are essential in returning personnel to work. This is in direct contrast to inpatient rehabilitation which takes members away from their workplace and their normality. Psychology, illness behaviours and motivation factors play a key part in likely prognosis and response to treatment. The current outpatient system takes in all the ideals of the most up to date Defence and civilian policies and produces a workable model for injury management.

**REFERENCES**


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A traditional Chinese curse goes something like this: "May you live in interesting times." If it be so, then we are all most certainly cursed for these are indeed very interesting times. Economic reality has hit the military hard — the buzz word for the 90’s is "downsizing" and the military medical empires have not been exempted. We are extolled to do more with less — our salaries compare poorly with the civilian colleagues who share our workplace yet each of us knows that the job we do is unique — the practice of military medicine encompasses so many exciting fields that no one individual can ever truly say that he is the master of them all. Yet all is clearly not well within our ranks — the vast majority of uniformed medical officers do not re-engage after the completion of their initial return of service obligation and our senior colleagues rarely remain to reach compulsory retiring age. Why is this so?

It would be facile to suggest that the answer to this question is easy — far greater minds than mine have sought solutions that have ranged from financial inducements to status through accelerated promotion. For every solution there has been a backlash — resentment of our pay scales from our non-medical brother officers through to erosion of the professional respect accorded to us as we have failed to formally develop our broader military officer qualities. The problem of medical officer retention has been ever present — no service has been spared at some stage or another and, clearly, there is no single answer. Whilst remaining both intrigued and tantalised by the oft-stated concept that there are no new sins on the face of this earth, I must accept that there are no new problems and certainly no new solutions. Is there, then, something that the ADF has not yet tried? I think that there is — an integrated ADF medical branch.

It is an immutable fact of human life that we all seek to define ourselves by identifying with a sub-group within society. As members of a uniformed service we pledge allegiance to our Queen, our country and to our service. I suggest that the allegiance to our service is often the stronger in that it is this allegiance that often directs our interaction with our professional brothers within the ADF. This very allegiance can become destructive when it leads to an erosion of our mutual professional respect and to a fragmentation of the delivery of quality health care to the servicemen and women of the ADF. This need not be so, as I witnessed vividly whilst on a recent Defence Cooperation visit to Canada.

I am sure that you are all aware of the "experiment" conducted in Canada in the late 1960’s/70’s when they fully integrated the three branches of the Armed Forces to form a single Canadian Defence Force (colloquially known as "purple suiters" although, in reality, the uniform was based on that of the Army, i.e. green). We all know that this was considered an abject failure and that the CDF has reverted to the original three services with their own uniforms, rank and doctrine. What you may not know is that the CDF medical branch has remained fully integrated — they wear the uniform of the mother service but can occupy any billet for which they are qualified. As an example, the Air Command Surgeon is a Naval Captain whilst the doctor in charge of the G-awareness programme for Air Force fighter pilots is a Navy Lieutenant-Commander. I must add for completeness, that they have a Surgeon General who is selected purely on merit (currently Air Force) and the next Surgeon General will be a female Air Force medical officer who was also the first Canadian female military pilot.

So — what are the advantages of such a system? Before listing the advantages of an integrated approach, we need to examine the reality of military medical practice within the ADF. We all share the doctrinal priority of enhancing operational health — of maintaining the fighting elements at peak efficiency. This often leads into our favourite specialist areas — aviation medicine, underwater medicine and battlefield resuscitation and

1. Austin T. Would that the white coat were purple. Aust Mil Med 1993; 2(2): 88-89.
2. WGCDDR Austin survived his sojourn in the USA and is now AIRCDRE Austin, the Director General Defence Health Service.
transport. The reality is often very different – an endless stream of mundane “unwelldness” that keeps us chained to our surgery desks. Even for those of us dedicated to a clinical career, this can become tiresome when your patient load comes from often very homogeneous populations. The job opportunities in military specialist areas are often limited and can ultimately lead to over-specialisation with the inevitable professional dead-end. The increasing emphasis on joint force operations has gone a long way to blur conventional roles and we must now have a far greater understanding of the needs of each component of the total force in combat. So what does this mean?

By integrating the medical branches of the ADF (whilst maintaining a single service identity) the potential employment pool is greatly expanded. This would then allow an individual medical officer to experience, by rotational postings, attachments etc., a much broader range of military medical specialties and thus remain professionally stimulated for a longer period of time. A larger medical pool would also permit specialisation across traditional single-service lines and thus increase the opportunity for postgraduate training and external accreditation. Hopefully, this would lead to a more natural matching of inherent interest and service needs thus creating a happier, more fulfilled medical officer population. The obvious flow-on from this would be greater retention of medical officers with enhanced corporate expertise and reduced training costs.

What then are the costs? The first casualty would have to be the traditional interservice antediluvian jingoism that has been the mainstay of military medical practice for generations. The second casualty would be selection by seniority rather than by ability. Are these costs too high? If the concept of a centralised Surgeon General is to be at all credible then the medical officers employed there need to have a realistic understanding of the needs of all three services. Most of the expensive postgraduate training programmes (e.g. MPH, MHA etc.) are common to all three services and are equally valuable to each. Specialist courses, such as the Diploma of Aviation Medicine, can be justified for selected members of all three services on the basis that military aviation remains fragmented within the ADF. Similarly, the work conducted by ADF specialist centres (e.g. School of Underwater Medicine, Institute of Aviation Medicine) already have relevance to the three branches of the ADF and would benefit from an injection of expertise from all branches.

In conclusion, I suggest that ADF medical practitioners need to critically assess the health of their own branches and seriously consider the merits of an integrated system staffed by open-minded, enthusiastic single-service members. I further suggest that this could open the way for a true profession of Military Medicine that would be satisfying and likely to encourage suitable people to devote the major portion of their professional lives to its advancement.

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HISTORY

A SHORT LIFE RICH IN IMAGES:
New Records of the Life of John Kirkpatrick (1892-1915)
“Simpson” of the Australian Army Medical Corps

John Pearn and David Gardner-Medwin

ABSTRACT

THE ICONOGRAPHY OF JOHN KIRKPATRICK (1892-1915), Private John Simpson (No. 202 of the Australian Army Medical Corps) and “Simpson” of the Australian Nation, continues to expand. Australia’s most famous soldier, he is one of only two servicemen to have been commemorated both on the Nation’s coins and stamps. Colonel Edward “Weary” Dunlop was the other. Private John Simpson Kirkpatrick was the first named serviceperson to have had a full size statue erected in his honour in Australia, in 1936. His tragically brief (24 days) operational service embodies the highest ethos of sustained gallantry, chivalry and pragmatic self-effacing service to his fellow soldiers.

This paper records new images of John Simpson Kirkpatrick and presents new archival evidence of his early life. Two of his six childhood homes have been identified. Images of the Good Samaritan influence, to which he was exposed in his childhood in South Shields on Tyneside, remain and are here presented. We document new details of his schooling. His first memorial, a statuette entitled “Man with the Donkey” was crafted in 1917 and presented to the South Shields [U.K.] Free Library on the second anniversary of his death. In 2003, on the occasion of the Centenary of the Royal Australian Army Medical Corps, new images of his service continue to be created. We present here a further photoarchive of his life and times and several recent examples of the iconic tributes which maintain his name as one of the most revered in Australia.

INTRODUCTION

John Kirkpatrick, “Simpson”, has become the ubiquitous symbol of all that is best in military medicine. A stretcher-bearer of considerable personal strength, his example of valour, gallantry and sustained self-sacrifice unto death combined the theme of the Good Samaritan with ethos of the most courageous battlefield soldier. As such, “Simpson and his Donkey” have become the proudest of all images of Army health – indeed, one of the proudest of the Australian Nation, which like the conurbation of Tyneside in the United Kingdom, claims him as its own.¹²

Several biographies¹³ and innumerable newspaper and magazine articles have been written about Private John Simpson, Private No. 202 of 3 Australian Field Ambulance of the Australian Army Medical Corps. However, apart from the personal letters¹⁴ he wrote to his mother, Sarah Simpson (c.1855-1933)¹⁵ and to his sister, Annie Kirkpatrick (later Pearson: b.1894)¹⁷ whilst he was a ship’s stoker in Australian waters, no primary sources have been published concerning his pre-enlistment personal life. His letters which have been published¹⁵ are held in the archives of the Australian War Memorial.¹⁶⁻¹⁸ Further analysis and interpretation of these letters remains to be undertaken and one military historian at least feels that these surviving archival fragments of his life in Australia still constitute “too many bricks without straw”.

We have recently completed primary research in South Shields, on Tyneside in England’s North East, concerning further details of his childhood. We have identified two surviving homes of the (at least) six in which he spent his childhood. We present images of these and other hitherto unpublished pho-
tographs cognate to his early life. New posthumous portrayals and tributes to his life continue to be created.1 “Simpson’s” brief service life was a distinctive one and very different from those of other service heroes such as Albert Jacka V.C., Sir John Monash and Colonel Edward “Weary” Dunlop. His persona and his association with Gallipoli, however, somehow caught the spirit of Australia perhaps seeking national icons after the end of the First World War. We present here images of the life of one of the most famous of all Australian service personnel, if not of all Australians.

**CHILDHOOD SCENES**

John Kirkpatrick (1892-1915) was born the illegitimate son of a Tyneside merchant sailor and a domestic servant, Sarah Simpson.2 Neither of his parents now has any marked grave. Confusion continues concerning his correct name. He was born “John Kirkpatrick”.3 Surviving archives in South Shields (Tyneside) and at the Australian War Memorial in Canberra show that he was universally called “Jack Kirkpatrick” in his childhood. He enlisted in the Australian Imperial Force formally under the assumed name of “John Simpson”. Posternity has accorded him the posthumous name of “John Simpson Kirkpatrick”, a name he in fact never knew himself. The boy grew up in the densely-populated industrial suburb of Tyne Dock (Figures 1 and 2). That suburb was part of the sea-oriented community of South Shields, then (Figure 1) as now a vigorous city bordered by the southern banks of the mouth of the Tyne River and the North Sea to the east.

We have recently identified six of the sites of his known childhood homes.4 Two of these remain standing after the post-1960s extensive re-building of Britain’s north-east conurbations. These two surviving homes of “Simpson” have been renovated, but their

**Figure 1:** Scenes of “Simpson’s” childhood. A photograph of children playing in South Shields, a scene contemporaneous with that of the childhood of John Kirkpatrick (1892-1915). Photograph circa 1900-1910, entitled “A Game of ‘Chunks” courtesy of Mr John Moreels and the Ward Phillipson Group, Gateshead [U.K.] with acknowledgements.

**Figure 2:** The childhood home of John Kirkpatrick (1892-1952), “Simpson”. The streets of his childhood (arrowed) were some three kilometres from the Tyne River to the east and north. From the Old Ordnance Survey Maps, “Harton 1895 [Tyneside Sheet 16], with acknowledgements Gateshead [U.K.] with acknowledgements.

**Figure 3A:** The rear of “Simpson’s” childhood home, centre right, originally a lane for access of the dust cart, now widened by the removal of one parallel row of terrace tenements. Rear of John Williamson Street, South Shields, Tyne and Wear [U.K.]. Photograph (J.P), September 2002.

**Figure 3B:** One (the third) of John Kirkpatrick’s childhood homes at 360 [left hand door] John Williamson Street, South Shields, Tyne and Wear [U.K.]. “Simpson” was enrolled (on 3 July 1899) at his second school at the Barnes Road Boys’ School, from this house. Photograph (J.P.), September 2002.
many find fulfillment in seeking out the “sites” where lived such as Douglas Bader, Leonard Cheshire V.C. and Seaman Evans (of the Scott Expedition).

John Kirkpatrick’s service at Anzac Cove was influenced by his childhood experiences with seaside donkeys. These were hired to children for beach rides. They formed a recurring annual tableau on the North Sea beach sands at South Shields in the summer months of his childhood (Figure 5). We believe that the boy was influenced in his childhood by the very public promotion of and pride in the Tyneside leadership role of saving life at sea. The lifeboat was invented in 1789 in South Shields several kilometres from his childhood home. He of necessity saw the Tyne Lifeboat being launched and returning from sea, and perhaps witnessed the heroic acts of its crew. The

current portrayal, presented here for the first time (Figures 3 and 4), retain some atmosphere of the terrace life and community in which John Kirkpatrick spent his childhood. For those Australians who find fulfillment in visiting “origins”, these surviving terraces constitute potential sites for latter day visits where one might pause and reflect on the physical environs where developed a young personality of which great courage was a facet. In similar fashion

Figure 4A: The surviving homes of the renovated terrace of South Frederick Street, South Shields. John Kirkpatrick’s (“Simpson”) lived at No. 141 (left of the nearest vehicle) in 1903-1904. Photograph (J.P.), September 2002.

Figure 4B: One of the two surviving childhood homes of John Kirkpatrick (1892-1915), “Simpson” of the 3 Australian Field Ambulance. At this home, the fourth of his six known childhood homes, situated at 141 South Frederick Street, South Shields, he lived with his parents and sibling in 1903-1904. This surviving home has been renovated. Photograph (J.P.), September, 2002.

Figure 5: The North Sea beach sands of South Shields where John Kirkpatrick (1892-1915) he ped with the control and husbandry of donkeys hired for children’s rides in the months of summer holidays. Photograph (J.P) looking north to the Tyne-mouth and below it the South Shields breakwater, September, 2002.

Figure 6: The plaque on the preserved and publicly-displayed Tyne Lifeboat, the Tyne, in Ocean Road, South Shields, U.K. The Lifeboat Memorial, built in 1887, was a prominent public monument near the childhood and teenage homes of John Kirkpatrick. Photograph, September 2002.

Figure 7: The painting “Willie Would have Inventing the Lifeboat”, by the Tyneside Artist, Ralph Hedley.

Together with Henry Greathead (1757-1816), William Wouldhave (1751-1824) invented and built the world’s first lifeboat, the Original, in 1789 in South Shields. The saving of life under circumstances of great personal danger to the resuers, and the championing of personal courage and gallantry was a very public topic throughout John Kirkpatrick’s formative years in this community. Photograph courtesy of Mr James Fell, of Tyne and Wear Museums, Tyneside (U.K.) with acknowledgements.
Lifeboat Memorial (Figure 6) and its inventor, William Wouldhave (Figure 7) were featured throughout his childhood in public monuments and in portraits in the South Shields Art Gallery, both within three kilometres of his home.

In the context of his service as a non-combatant at Gallipoli, with the Red Cross Insignia wrapped around his donkey's forehead, Simpson was not a pacifist but one who practised a muscular Christianity in the Good Samaritan (Luke 10:30) ethic. He had been a former gunner, serving as a Volunteer from the age of 17 with the 4th Northumbrian County of Durham (Howitzer) Brigade R.F.A. (T.F.) [Royal Field Artillery; Territorial Force]. This unit, raised in 1908, was part of the South Shields Territorial Force of the Northumbrian Division within Northern Command [U.K.]. Gunner Kirkpatrick attended weekend encampments on the North Sea where there was an artillery training range at Trow Lea (Figure 8) on the coast south-east of South Shields where he was born, attended school, worked and lived. He remained a “Geordie” to his death, and some Tynesiders remain perplexed at his “adoption” as an Australian, in popular belief. His popular reassessment as an Australian became intensified after his image was portrayed on Australian stamps in 1965.

![Figure 8: The cliffs and sands of Trow Lea, on the North Sea, 1.5 kilometres south-east of South Shields and less than 3 kilometres from the Tyne Dock district. Here in 1909, Gunner John Kirkpatrick trained with his battery of the 4th Northumbrian County of Durham (Howitzer) Brigade of the Royal Field Artillery (Territorial Force). Photograph (J.P) looking south-east, showing a heavy artillery gun atop the cliffs, September, 2002.](image)

**LESSONS FROM CHILDHOOD**

Military heroes so often have spent inauspicious or unpromising childhoods. It was asked of the childhood of one of the most famous doctor-soldiers of all,

John Hunter: “I wonder what John Hunter was like when he was a farm labourer, as he was until the age of 17, showing no promise in anything?”

Professor Ronald Illingworth in: “Under-achieving Children Destined for Fame”.

It was this John Hunter, who “showing no promise in anything” went on (in 1760) to accept a commission as an army surgeon; and in 1790 to be appointed Surgeon General and Inspector General of Hospitals to the British Army.

Other great soldiers with inauspicious childhoods were Robert Clive (1725-1774), “Clive of India”, of whom Macaulay said “The general opinion of him was that he was a dunce”. In similar vein, the Duke of Wellington “made only slow progress at school and in one examination was 53rd out of 71”. One biographer of Winston Churchill recorded that the latter “passed into Harrow at the bottom of the lowest form, and never moved out of the lower school for the whole of the five years he was there. He remained perpetually bottom of the class, and did not excel in sport”. Major General Orde Wingate (1903-1944) “seemed [in his childhood at Charterhouse School] to be one of hundreds of difficult little boys”. Lord Baden-Powell, he of Mafeking, had “such an undistinguished school life that he was rejected as unsuitable for Christchurch College and for Balliol College at Oxford University”, even although his distinguished father was a professor there.

In this context, there are almost no primary archival resources surviving of John Kirkpatrick’s childhood. He commenced schooling at the Barnes Road Infants’ School in 1898 when he was six years old. In July 1900, he transferred to the South Shields Barnes Road Boys’ School, administered by the South
Figure 10: The Mortimer Road Council School, South Shields, Tyne and Wear. John Kirkpatrick (1892-1915). [No. 202, Private John Simpson of 3 Australian Field Ambulance] attended primary school here from 1903 until he left to become a delivery boy for a dairy company in 1905. Two memorial prizes were awarded for swimming at the 1960s. One of the buildings of this School was the Kirkpatrick House Block until 1984. This building was demolished in 1990, prior to school re-building. Photograph, circa 1985, courtesy of the Archives, Tyne and Wear, Newcastle-upon-Tyne (U.K.).

Shields Barnes Road Board School Boys' Department. His admission number was 2714 (Figure 9).

John Kirkpatrick's third school was the Mortimer Road Council School, in South Shields (Figure 10) which he attended from September 1903 until the minimum time that he could legally leave school, at the age of 12 years, in 1905. There were three John Kirkpatrick memorials at his old school; an essay prize, a swimming prize and the Kirkpatrick House Block, a school building extension named in his honour. The first two of these were discontinued in the 1960s and the third demolished in 1984.

POSTHUMOUS IMAGES

There are but two known photographs (Figures 11 and 12) of John Kirkpatrick, copies of which are held both in the South Shields [U.K.] Public Library (Research Section) and in the Simpson Files of the Australian War Memorial. They are reproduced here.

Figure 11: The only known photograph portrait of John Kirkpatrick (1892-1915), taken in Australia in 1913. Photograph courtesy of the Research Section of the South Shields Public Library, South Shields, Tyne and Wear (U.K.) with acknowledgements.

John Kirkpatrick's status as perhaps the best known "Australian" stems from his gallantry during a brief 24-day period at Anzac Cove. His named memorial inscriptions date from a temporary wooden cross at Anzac Cove itself, a short-lived memorial which was later replaced by a headstone. Professional tour guides at Anzac Cove have told one of us (J.P.) that, in the twenty-first century, this headstone is the most sought-out point of interest, even pilgrimage, by tens of thousands of Australians and New Zealanders each year.

The first permanent memorial to Simpson was a small bronze statuette, entitled "Man with the Donkey", sculpted by the Tyneside artist, Bertram Pegram in 1917. It was purchased by five masonic philanthropists of the Lord Barnard Lodge, Tyne Dock, South Shields, for £50. This group in turn presented the statue to the South Shields Free Library in May 1917, on the second anniversary of John Kirkpatrick's death. This gift was recorded in the South Shields' Free Library Gazette of the 17th May, 1917. Occasional newspaper articles and Memorial services in South Shields have continued since that time (Figure 13).

Besides his initial wooden grave-cross at Anzac Cove, and the bronze statuette in South Shields, his third memorial was the inscription of his name in the War Memorial in the old St Mary's Church, Tyne Dock, subsequently relocated to South Eldon Street where it stands today (Figure 14).
The popular and ubiquitous image of him bringing in a wounded Anzac supported on “Murphy”, his donkey, is in fact modelled not on Simpson, but on a New Zealand stretcher-bearer, Richard Henderson, a Military Medal winner also from Anzac Cove. After Simpson was killed on the 19th May, 1915, Private Dick Henderson, a stretcher-bearer of the New Zealand 1st Field Ambulance, found the donkey wandering “round the shell-torn beach, and carried on the good work”. A photograph of Henderson was taken by Mr. J.G. Jackson, at Gallipoli, later of Dunedin. Using this picture, Mr H. Moore Jones, of Auckland, painted the scene from the photograph, and entitled it “Simpson and his Donkey”. Mr Moore Jones sold the painting to the Auckland Commercial Travellers Club (“for about £300”). A copy of the painting was sent to Scotland for lithographic reproduction, just prior to the death of the artist who was killed in a fire at the Hamilton Hotel, Dunedin.

**Figure 15:** The Statue of Private John Simpson Kirkpatrick (1892-1915), in Ocean Road, South Shields, Tyne and Wear [U.K.]. The statue is entitled “The Man with the Donkey” and was sculpted by the Tyneside artist, William Olley and cast in 1988. Behind the statue is the public house, “Kirkpatrick’s”, named and opened in 1990 in the former South Shields College for Mariners. One of the authors (JP) is beside the statue. Photograph (DG-M), September 2002.

This evocative painting has touched the hearts of millions; and has been used as the inspiration for statues, coins, postage stamps, prizes, statuettes and medallions, in at least five nations – the United Kingdom (Figure 15), Australia (Figure 16), New Zealand, Papua New Guinea and Nauru. An early statue of Simpson was unveiled at Ararat, Victoria. The second of the Australian statues of “Simpson and his Donkey” was sculpted by Wallace Anderson and unveiled by Lord Huntingfield near Melbourne’s Shrine of Remembrance in August 1936 (Figure 16). Although Simpson’s name is not specifically mentioned on the plinth, the caption to him reads “The Man with the Donkey – the Valour and Compassion of the Australian Soldier”. With for-
Figure 16: The unveiling of “The Man with the Donkey” near Melbourne’s Shrine of Remembrance by His Excellency, Lord Huntingfield, in 1936. Also in this photograph are Mr Merrill Williams, the President of the Australian Red Cross; and General Sir Harry Chauvel, under whom Kirkpatrick had served. The statue was modelled on the J.G. Jackson photograph of an Anzac stretcher-bearer, taken at Gallipoli in 1915. Photograph courtesy of the Archives, Research Section, South Shields Public Library, Tyne and Wear (U.K.), with acknowledgements.

Figure 17: An Australian five dollar coin minted in 1995 depicting on the reverse, “Simpson and his Donkey”. The Royal Australian Mint, Canberra.

An Australian five dollar coin (Figure 17), the senior award of the Returned Services League of Australia (Figure 18), and numerous medallions have been struck which portray the iconic theme of “Simpson and his Donkey”.

Figure 18B: The annual award of the Returned and Services League, entitled “Anzac of the Year Award”. This bronze medallion portrays, on the obverse, Private John Simpson of the Australian Field Ambulance with his donkey, bringing in a wounded Anzac. The donkey bears the Red Cross emblem on a bandage around its forehead.

Figure 18B: The Reverse of the Anzac of the Year Award of the Returned and Services League of Australia. Reverse: This Medal (Figure 18A and 18B) was awarded to Lt. Colonel Robert Pearce AM, RDF, later (from 2002) the Honorary Colonel of the Royal Australian Army Medical Corps (Western Australia). Photograph courtesy of Dr Robert Pearce of Perth, with acknowledgements.

The donkey himself has also been the subject of memorialisation. Irresolvable confusion abounds as to the name of this much-loved animal. Variously called “Murphy”, “Duffy”, “Duffy One”, “Duffy Two”, or “Abdul”, all these names have been recorded in various secondary reports, dating from 1917.1 Confusion exists because of the metonymic association between one of Simpson’s nicknames, “Murphy”, itself. As a metonymic symbol, the donkey mascot of the Royal Australian Army Medical Corps was named “Simpson” as part of this ubiquitous iconic theme. The donkey, “Murphy” himself, was posthumously awarded the Purple Cross, of the World Society for the Protection of Animals, on the authority of the RSPCA Australia, on 19th May, 1997 (Figure 19). The citation reads:

“For all the donkeys used by John Simpson Kirkpatrick... for the exceptional work they performed on behalf of humans while under continual fire at Gallipoli during World War One (1915)”.

The depiction of Simpson and his donkey, and of the heroic saving of life personified by their actions, continues to inspire artists, sculptors and medallists; and those who see merit in continuing to bring the virtues of self-discipline, humility, resolve and courage before society, in times when such virtues are threatened by alternative trends. As recently as 1991, a new pub, “Kirkpatrick’s” (Figure 15), was opened in South Shields, beside the statue of Simpson and his donkey, in Ocean Road, South Shields.8

We have entitled this new photoarchive, “A Short Life Rich in Images”. John Kirkpatrick’s life was indeed short. He is known to the world only because of a 24 day window-of-time during operational
The Chief of the General Staff of the Australian Defence Force (on Anzac Day 1929), recorded:

"Let it be said, in support of the Officers [at Anzac Cove] that no rule or regulation was quoted as a reason for hindering Simpson's enterprise... Kirkpatrick was allowed to function as a separate unit, and he reported to the Ambulance [3 Australian Field Ambulance] only once a day."

The fragmentary archives which remain of Simpson's life reveal him as a slightly iconoclastic youth with a spirited sense of humour. His independent spirit, his wry eschewing of humbug and his "getting on with the job" at Anzac Cove under prolonged mortal risk, are of a flavour which is at variance with the reverence which has been engendered by the iconography which records his life and works. Such virtues, however, have come to transcend the individual and his legacy remains an inspiration for all who have become acquainted with his life.

ACKNOWLEDGEMENTS

We thank particularly the senior librarian and staff of the South Shields Central Library, South Shields, Tyne and Wear [U.K.]; the Tyne and Wear Archives, Newcastle-upon-Tyne; Mr John Moreels of the Ward Phillipson Group, Gateshead for permission to publish photographs of Tyneside in the early twentieth century; and Mr James Fell and the Tyne and Wear Museums for permission to publish photographs, the originals of which are held in the South Shields Museum, Tyneside, U.K. We thank also Colonel Robert Pearce AM RFD RAAMC, Honorary Colonel of the Royal Australian Army Medical Corps (Western Australia) and Dr Christopher Gardiner-Thorpe, Consultant Neurologist of Exeter, for much encouragement.

REFERENCES

16. Editor. Gallipoli Epic Recalled. Mother of Shields Hero Dead. "Block with the Donkey" who rescued wounded. *North Mail and Newcastle Chronicle* 1933; 12 Feb [Ms Sarah Kirkpatrick died 3 Jan 1933 at her daughter's home [Mrs Annie Pearson], at Dale Street, South Shields].

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Tel: (03) 6234 7844 Fax: (03) 6234 5958 Email: secretariat@amma.asn.au
Website: www.amma.asn.au
This is the third edition of *Statistics* in the *Pretty Damned Quick* series. Despite the title, the authors, Geoffrey Norman and David Streiner are Canadians with appropriate backgrounds to produce an understandable text in Statistics for health professionals. Norman is a professor of clinical epidemiology and Streiner a professor of psychiatry. I suspect the easy style of the book is a serious attempt to tailor information to the reader. This is not an introductory book. The pitch, however, is such that those with some post-graduate biostatistics will be able to dissolve that greyness that persists after you have passed the stats exam and then want to use some stats later in practice. Be aware that this is a biostatistics book and is only very light on research design.

The book is divided into sensible parts moving from the nature of variables onto parametric, then non-parametric and the dreaded multivariate analyses. I have found this allows either building on fundamentals towards concepts or spot referencing. Biostatistics are always more understandable when related back to a real situation. Naturally, by real I mean a clinical situation, which is style used by Norman and Streiner. With the addition of the CRAP detectors (convoluted reasoning or anti-intellectual pomposity), the authors provide tools to highlight misuse or misinterpretation of statistical tests making the book good value as a reference for critical appraisal of research. It may even have you reading *Results and Methodology* sections of papers to look for CRAP.

*PDQ Statistics* is distributed by Elsevier Science (www.harcourt.com.au) in Australia and New Zealand and should come with a CD-ROM of the text enclosed.

1. Reviewed by Major Scott Kitchener, RAAMC, Army Special Staff Group.
ALL MEMBERS OF THE ADF will be aware that 01 July 2003 marks the Centenary of the Royal Australian Army Medical Corps. One of the new books to be published on this occasion is Men of the Ninth – A History of the Ninth Australian Field Ambulance. This book traces the history of the 9th Field Ambulance from 1916 until its final disbanding in 1994.

The book is really the history of the four field ambulances, which have carried the number ‘Nine’ since the original unit was raised to support the 9th Brigade in Sydney in 1916. This unit served with great distinction on the Western Front, and took part in the Battles of Messines, Third Ypres, Villers-Bretonneux, Amiens, and the Breaking of the Hindenburg Line. In 1921, when the AIF was finally disbanded, the 9th Field Ambulance became a CMF unit based at Victoria Barracks in Sydney. It survived the end of compulsory military service in 1929 and the Depression, and many of those who served in the unit between the wars went on to senior and command positions. In all, five former members of the unit have reached General Officer rank.

On the outbreak of WWII, those members of the unit who were young enough volunteered for the AIF. They were replaced by Universal Trainees, most of whom later became volunteers themselves. Thus the Ninth Field Ambulance AIF came into existence and was sent to New Guinea in 1943. As Corps Troops, they supported the Markham and Ramu Valley campaigns by manning Airfield Evacuation Posts at Nadzab, Dumpu, and in Port Moresby.

In 1940 another unit, the 29th Field Ambulance, was raised in Melbourne with many of its members drawn from a militia unit, the 16th Field Ambulance. The 29th went to Malaya with the rest of the ill-fated 8th Division and, after bitter fighting on the Peninsula, its soldiers became POWs in Singapore. The book describes in detail the fate of those who were sent away from Singapore to labour camps in Thailand, Borneo, and Japan, and also the dedicated medical work performed by the others who remained at Changi.

In 1952, the unit was re-raised in Townsville as part of the 11th Brigade. This section of the book describes the vices and virtues of the CMF/Army Reserve over a period of 42 years, and includes the issues of National Service, the Vietnam War, and the impact on the Reserve Forces of changing societal values and changeable Government policies. The Ninth Field Ambulance remained an integral part of the Army Reserve strength in North Queensland until it was disbanded in 1994 following the restructuring of the Australian Defence Force.

The author of this encyclopaedic work is LtCol Robert Likeman (Retd), who was the unit’s last Commanding Officer. He unfolds the narrative through the diaries, letters and first-hand accounts of ordinary soldiers, yet makes his analysis through the eyes of a doctor and a former Commanding Officer who has himself been on active service. He is critical of the decision to disband the Field Ambulances, which he claims has eviscerated the Medical Corps at a time when increasing demands are being made on it for the support of overseas operations.

Biographical information on many of the central characters has been carefully researched and is provided in footnotes. The author has visited all the sites of action himself, including walking the Kokoda Track and penetrating the inside of Changi Gaol. More information about the book can be obtained by visiting www.slouch-hat.com.au.

Abstracts from the Literature

Contributed by James Ross


OBJECTIVE
This study examined the prevalence and sources of occupational stress for military personnel and the relationship between work stress and emotional health in the military population.

METHODS
Four hundred and seventy two active duty military personnel stationed at F.E. Warren Air Force Base completed a 65-item survey that included items involving reported life events, perceptions about occupational stress and perceptions about the relationship between work stress and emotional health.

RESULTS
These military personnel were significantly more likely to report suffering from work stress than civilian workers (p<0.001). 26% reported suffering from significant work stress, 15% reported that work stress caused them significant emotional stress and 8% reported experiencing work stress that was severe enough to be damaging to emotional health. Generic work stressors were endorsed more frequently than military-specific stressors.

CONCLUSIONS
More than one-quarter of this sample of military personnel reported suffering from significant work stress and a significant number of these individuals suffered serious emotional distress. These results support previous research suggesting that work stress may be a significant health hazard in the US military.

COMMENT
The latest ADF attitudinal survey was published in April 03. For the first time it asked about wellness. The figures for a negative impact on 'emotional health' were much lower than 25%, but of course the same questions were not being asked. It was interesting that RAAF seemed to have the highest wellness level (self-reported). If that is reflected in the US, what does that say about emotional health in Navy, Army and Marines? It would be interesting indeed to see comparison between military and civilian emotional health in Australia. I suspect that we would not see a significant difference the way this US study has.


Is there a better way to train and prepare our health care personnel to function in a chemical biological environment while continuing to provide for patient care in a variety of healthcare settings? The purpose of this pilot work was to compare the effectiveness and user satisfaction of the Cath-Sim Intravenous training system to the traditional IV arm model for teaching and achieving competence at IV insertion while in Mission-Oriented Protective Posture Level 4 for Army medical personnel. Grounded in Adult Psychomotor learning principles and in an established evaluation model, participants were tested on both the traditional IV arm and Cath-Sim models and then allowed to practice on each model at MOPP-4. One week later, participants were again tested on both models. Outcome measures included (1) a computer generated score sheet measuring time to success and criterion success/non-success on the Cath-Sim (2) time and success rating for IV insertion on the IV arm model and (3) satisfaction evaluations completed by the participants. There were conflicting evaluation scores for recommending one model over another. Participants felt there was some benefit to each model depending on user, setting and purpose.

COMMENT
Well, I think that the question is bigger than the one posed by the researchers. It is assessing in the military environment, and particularly skills maintenance issues when deployed, computer based simulation tools. This study was inconclusive. It was suggested that the IV arm
could be used in field settings and Cath-Sim in fixed facilities, but this really seems to be missing the point – it should be the field situation that needs the most realistic training. There is considerable interest in simulation in the ADF, and this should be part of an 'e-health' capability in the future.


INTRODUCTION
Sleep disorders are common in the civilian population but little is known about which sleep disorders are common in members of the military. This article compares a group of military personnel referred to our sleep disorders clinic with a group of civilian controls also referred to our clinic.

METHODS
We analysed the data of 70 Canadian military personnel and 70 civilian controls matched for age and gender. All subjects had full polysomnography. We compared reasons for referral and final sleep diagnoses for both groups.

RESULTS
The mean age of each group was 40.8 +/- 7.0 (military) and 40.8 +/- 7.3 (civilians) and there were 61 men and 9 women in each group. Both groups were obese (BMI 30.2 +/- 5.3 v 32.5 +/- 6.9). Both groups were also pathologically sleepy during the day (Epworth Sleepiness Score 10.4 +/- 4.6 v 11.3 +/- 5.4). The majority of referrals in each group were to rule out a sleep breathing disorder (66% v 79%, not significant). Only military patients were referred to rule out a movement disorder (17.1% v 0%, 95%CI 8.4-27.6%, p<0.05). Fewer military were referred because of excessive daytime sleepiness or insomnia (7.1% v 20.0%, p<0.05). The most common diagnosis confirmed in both groups was a sleep breathing disorder (53% v 66%, p not significant).

CONCLUSIONS
The range and distribution of sleep disorders seen in the military population is similar to that in a civilian population. Both groups were overweight and sleepy and were found to have SBD and movement disorders. These findings underscore the importance of diagnosing and treating sleep disorders in both groups. The neurocognitive impairment associated with SBD and movement disorders impacts highly on the ability of these groups to safely perform their jobs.

COMMENT
This study looked at military and civilian patients referred to a sleep disorder clinic. It did not look at prevalence in the military compared to matched civilians. It did not address the issue of the significance of sleep disorders in the military – particularly fatigue, decision making, errors and impact on colleagues, especially if having to share sleeping quarters. It is but a descriptive cross-sectional analysis and more needs to be done to define just what the burden of sleep disorders actually is.


The health and psychological effects of combat ration pack (CRP) feeding during 12 days of military training in a tropical environment were investigated. Three groups of air defence guards received either: freshly prepared foods (fresh group, 15 MJ, 3600 kcal, N=13), full CRP (15 MJ, N=10) or half CRP (7.5MJ, N=10). Underconsumption by the full CRP group resulted in CRP groups experiencing similar weight loss, protein catabolism and immune suppression (both cell-mediated and humoral) whereas the fresh group maintained their weight and protein balance and cell-mediated immune status. CRP groups reported greater fatigue than the fresh group. All ADGs experienced poor sleep quality and declining folate and iron status. ADGs drank insufficient water to prevent dehydration. In the medium term, ADGs were able to adapt to restricted food consumption and poor sleep quality with no decrement in physical fitness or cognition.

COMMENT
Numerous issues come out of this study, including the underconsumption of full CRPs: the first food to be discarded tends to be carbohydrates and how to ensure the available energy and micronutrients are consumed. Second is the issue of how long is it safe for personnel to
be consuming solely CRPs before fresh rations are required to avoid significant decrement in performance and potentially adverse health outcomes. Those questions are being considered by the Defence Nutrition Research Centre of DSTO, whose research this is.


BACKGROUND
All naval aviators, navigators and aircrewmen are required to participate in hypoxia familiarisation training. This training is performed in a hypobaric chamber and is considered high risk due to the potential for barotrauma and/or decompression sickness. Prior analysis of the DCS in US Navy hypobaric chambers revealed a significantly higher incidence amongst inside observers (IOs) compared with students. In response to these reports, all IOs are required to denitrogenate using 100% Oxygen for 30 min prior to altitude exposure (prebreathing). Although the Army, Navy and Air Force prebreathe for 30 min prior to most hypobaric exposures, there have been no reports validating the efficacy of this measure. This study examined the incidence of altitude DCS during training exposures to simulated altitudes of 25,000 ft and 35,000 ft in IOs and students, some of whom prebreathe and some whom did not.

METHODS
Exposures and DCS cases for a period of 9 yrs were tabulated from training reports maintained at the Naval Operational Medicine Institute at Pensacola, FL. Chi-squared or Fisher’s Exact test was used to compare the data sets and p<0.05 was considered significant.

RESULTS
The overall DCS incidence for students and IOs for all chamber profiles was 0.25%. The incidence for 25,000 ft was 0.29% for students who did not prebreathe and 0.15% for IOs who did (p=0.10). Within the student group there was a 0.44% DCS incidence for 25,000 ft with no prebreathe and a 0.17% incidence for 35,000 ft with prebreathe. (p=0.004).

CONCLUSION
A 30-min prebreathe prior to altitude exposure appears to contribute to a reduction in the risk of DCS during hypobaric chamber training.

COMMENT
In the ADF, we have been requiring instructors and students to prebreathe for 30 minutes for the last 10 years. Certainly physiological principles suggest this must reduce the risk of Decompression Illness. This study has confirmed that principle. It is interesting that it is only a requirement for students: what is the acceptable risk profile for students? It seems a 1 in 200 exposure risk of DCS is acceptable, based on 0.44% incidence with no prebreathe at 25,000 ft. If prebreathing can reduce this, then I see no justification for not prebreathing students as well as instructors.


As part of a screening study, a literature review, personal interviews and field work at several deployment locations, we examined the historical use of biological warfare agents and the vulnerability of food at military deployment locations to bioterrorist attack. The results of our experience suggest the following: historically, food has occasionally been used as a weapon by individuals; a benchmark procedure already exists to evaluate and ensure the safety of foods procured and used by the US federal government; and food sources at the deployment locations examined are vulnerable to terrorist attack as determined by a critical point analysis. Recommendations to potentially decrease the vulnerability of the US military food supply to intentional contamination are also provided.

COMMENT
There were really surprisingly few intentional contamination events identified in the US over fairly recent times. The opportunities and potential consequences should make food contamination a popular option for terrorists in the future.

**BACKGROUND AND OBJECTIVE**
The purpose of the study was to ascertain what had been discovered in the 15 yr that the British Army has been conducting a program of routine blood testing on its pilot population. These results were to be analysed with respect to the causes of medical retirement, change in flight status on medical grounds, accidents, incidents and sudden incapacitation in flight.

**METHODS**
Data were collected from the records of 408 aircrew and comprised 1213 records of test batteries. Each battery consisted of: complete blood count, erythrocyte sedimentation rate, urea and electrolytes, liver function tests, fasting glucose, thyroid function tests and fasting lipids. Altogether 8491 tests were considered. They were analysed for degree of abnormality, subsequent action, resultant diagnosis and therapeutic interventions.

**RESULTS**
The positive predictive values for the tests ranged between 2% and 33%. The overall percentages of tests that resulted in a diagnosis were between 0.08% and 3.5%, and therapeutic intervention between 0.08% and 3.4%.

**CONCLUSIONS**
No evidence to support the continuation of routine blood testing was found other than in the case of lipid estimation. Although this had the highest diagnostic yield, abnormal results were dealt with in an inconsistent manner. Further, the testing was shown to have no predictive value in any of the adverse pilot outcomes mentioned above. Recommendations to alter future practice have been made and accepted in full by the Aviation Medicine hierarchies of all three UK Services.

**COMMENT**
Much is made in this review of the low diagnostic yield and lack of any relationship of positive results to aviation outcomes, and the decision was made to ditch the annual screening in favour of ab initio screening and a cardiac screen at age 40. With most of this I am in agreement; where I have difficulty is that the prevention of just one mishap would be sufficient to justify such a program over many years. The identification of an avoided mishap is practically impossible. I have seen almost no discussion about blood glucose. In the period of the review, 3 aircrew were diagnosed with diabetes. One of these was through the test battery. It is not discussed how the other two presented. I am at a loss to figure out how the resultant decision was to ditch blood glucose examination.


**BACKGROUND**
An essential element in planning for long-term space missions is prediction of the medical support required. Medical data for analogous populations serving in isolated and/or contained environments are useful in predicting the health risks for astronauts.

**METHODS**
This study evaluated the rates of health events that occurred among a highly screened, healthy military population during periods of isolation using a centralised database of medical encounter records from US Navy submarines. The study population was composed of US Navy officers and enlisted men deployed on 240 submarine patrols between 1 Jan 1007 and 30 Sep 2000.

**RESULTS**
A total of 1389 officers and 11952 enlisted crew members served aboard participating submarines for 215086 and 1955521 person-days at sea, respectively, during the study period. Officers had 214 initial visits to medical staff with 79 revisits for the same condition during these patrols, while the enlisted men had 3345 initial visits and 1549 revisits. Among officers, the most common category of medical events was respiratory illnesses (primarily upper respiratory infections) followed by injury, musculoskeletal conditions, infectious diseases, symptoms and ill defined conditions and skin problems. Among enlisted men, the most common category of medical events was injury, fol-
allowed by respiratory illnesses, skin problems, symptoms and ill defined conditions, digestive disorders, infectious conditions, sensory organ problems and musculoskeletal conditions.

CONCLUSION
Potential mission impacting medical events reported were rare; ie among a crew of seven officers, only one medical event would be expected to occur during a 6 month mission and result in less than a day of limited or no duty. Among a crew of seven enlisted men, about two medical events would be expected during a 6 month mission and result in about 1 day of limited or no duty per medical event.

COMMENT
Interesting the justification for the study – looking for predictions of space flight health problems, rather than that the submarine environment in and of itself justified the study. The population was also all male, so immediately of limited value. The presence of psychological diagnoses may reflect a true absence, a reluctance to report, or a diagnostic bias. Anyway, if there are truly few episodes where medical events of any kind lead to problems during a 6 month submarine mission, that augers well for space exploration as well as for future submarine missions.

Contributed by Andy Robertson


COMMENT
Caldicott and Edwards have written a series of articles in Emergency Medicine (Fremantle), which look at the global threat of terrorism, weapons of mass destruction and their potential impact. While there is nothing particularly new in these articles, they do provide an excellent summary of the issues with an Australian focus. Edwards completed the ADF MO NBC Course in 2001, and with Caldicott, has established the only hospital based research centre in Australia in this area.


The Full Court of the Federal Court recently held that an order re-instating an employee to his or her former position does not necessarily mean the employer is required to provide the employee with his or her former duties, or any duties at all: Ramsey Butcherings Services Pty Ltd v Blackadder [2003]. FCAFC20 (21Feb03)

COMMENT
Yet another reason to be careful when writing contracts. Employers of contractors, including Defence, should be careful when drafting contracts to ensure that the contracts do not provide employees with a right to work.


The safety of the UK anthrax vaccine in British service personnel was evaluated by a retrospective cohort study of randomly selected personnel from five Royal Air Force bases by investigating adverse medical events and consultation rates for a period before and after vaccination. Vaccination acceptance rate varied from 27 to 89% (P=0.0001). In the vaccinated cohort 11.1% (n=368) reported side-effects. The number of consultations in the year prior to vaccination (P=0.04) and RAF base (P=0.0085) were associated with side-effects. Only the RAF base remained a statistically significant factor (P=0.007) after adjusting for other factors. The anthrax vaccine resulted in mild side-effects in 11%, and no serious side-effects were observed. Acceptors of vaccine did not have significantly more
medical consultations following vaccination than their unvaccinated counterparts.

**COMMENT**

This is one of few studies which look at the UK military anthrax vaccination experience. This study highlights two main themes. One, the UK anthrax vaccine is safe to give, with 11% rate of mild side effects and no major side-effects. Two, the unit's approach to the vaccination program is linked to the number of side-effects. If the participants are convinced of the utility and safety of the vaccine, the take-up rate and reported side-effects are significantly lower (in some cases, 80% lower). 'Hearts and minds' are a key aspect of any successful vaccination program.


The biological warfare capabilities of state and non-state actors continue to grow worldwide, both in sophistication and breadth. More than a dozen nations, including Iraq, Iran, Libya, Syria and North Korea, are either actively pursuing or possess biological weapons for use against their enemies. There is also a heightened awareness of the use of such agents by terrorist groups, a possibly deleterious side-effect of an increased awareness by the general public. This paper looks at the growing threat of the use of biological agents by both national programmes and non-state actors, the possible agents which might be considered for use, and the potential role that vaccine development may have in protecting both military and civilian populations against biological weapons attacks in the future.

**COMMENT**

This has been recently published and is based on a presentation in Aug 01 by the reviewer.

Medical Officers NBCD Course

The 2003 Medical Officers NBCD Course was held at the Health Services Wing (HSW) ALTC Bonegilla from 05 - 16 May 03. Officers from all three services attended, along with representatives from the greater ADO, and we were pleased to have representatives from the Victorian State Department of Human Services and the Victorian Ambulance Service. Visiting Lecturers from AFRRI and USAMRIID in the USA, and from DSTO and DFAT in Australia, provided their expertise. Practical sessions were conducted with the help of the IRR, SME and the staff of HSW.

Dux of the course was SQNLDR Chris Watson, currently posted to RAAF Pearce in WA. He was awarded a certificate of merit and the annual AMMA book prize. The 2004 course will be held from 24 May to 06 June 2004. A call for nominations will be made in January 2004.

CMDR Alison McLaren, RAN

Course Director
SUCCESSES

The following AMMA members have achieved success through honours, awards, promotions, publications, etc. Members will note that these items are not complete. The Editor needs sources of information from the three Services and from our civilian members as well, so that this section of your journal can truly reflect the cross-section of our membership. Updates can be faxed to CAPT Andy Robertson on (02) 6266 2314 or emailed to: journaleditor@amma.asn.au.

AWARDS & GRANTS

• CAPT Jenny Graham was awarded an Order of Australia, Military Division (AO) as part of the 2003 Australia Day Honours. CAPT Graham, who had already received a CSM, was awarded the AO for exceptional service to the Australian Defence Force and the Royal Australian Navy in the field of military officer training.

• Dux of the 2003 Medical Officers’ NBC Defence Course and winner of the AMMA book prize was SNQLDR Chris Watson of RAAF Pearce.

AMMA have a number of awards and grants available to members. Details about these awards and prizes can be found on the AMMA website: www.amma.asn.au/

Deadline for all awards is 30 June 2003.

For those wishing to do a research project within Defence, the project must be approved by ADHREC (The Australian Defence Human Research Ethics Committee).

Information kits for new researchers are available from the ADHREC Executive Secretary on: Tel: (02) 6266 3818 Fax: (02) 6266 4982

Research Grant - $1000
A grant presented towards new or ongoing research.

Journal Editors Prize - $750
For best paper by an AMMA Member published each year in the AMMA Journal.

Patron’s Prize - $250
Best article published in a peer-reviewed journal by an AMMA member – must be a health related article.

Australian Military Medicine Prize - $500
Best essay by an AMMA Member on a chosen topic. The topic for 2003 is: “The Challenge for the future. Recruiting and Retaining the Best People for Defence Health Operations”.

For further information contact the AMMA Secretariat or visit the website.

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AMMA WEBSITE

Visit AMMA’s website at: www.amma.asn.au
The web site is constantly evolving and any contributions are welcome.

2003 CONFERENCES

The next AMMA Scientific Conference will be held at the Hilton Hotel, Adelaide, SA between 17-19 October 2003.
The program will be posted to all AMMA members.
If you require extra brochures or more information please call Leishman Associates on (03) 6234 8044 or visit the web site: www.amma.asn.au

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Issue Copy Deadline
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## CONFERENCE AND MEETING CALENDAR

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UNMISET UPDATE

On 20 May 2002, East Timor became an independent country, marking the end of a three-year process towards independence under the guidance of the United Nations. UNMISET was established by the United Nations Security Council to provide assistance to East Timor over a period of two years until all operational responsibilities are fully devolved to the East Timor authorities. On 20 May 2002, the new nation also changed its name to Timor-Leste. It became the 191st UN Member State on 27 September 2002.

Australia participated in the first UN monitoring mission, UNAMET, which culminated in a public verdict in favour of independence. We led the INTERFET mission, that restored security in East Timor in the dark days of 1999, and we have contributed a great deal to the UN Transitional Administration in East Timor known as UNTAET. Over 15,000 Australian defence personnel have served as members of the international peacekeeping force.

Australia will continue to play a lead role, including in the peacekeeping force and UN police presence, which will be drawn down over the next 12 months. The ADF health commitment to UNMISET remains substantial. A total of 65 ADF health personnel remain in country providing health support to Australian Forces and other Peace Keeping Force personnel.

Our current medical specialist commitment is two level three teams and three AME teams ensuring a 24-hour level three and AME capability. In addition to General Surgeons, Orthopaedic Surgeons, Anaesthetists and Intensivists, Generalists with Permanent Force, AME or AME coordination experience are also required. These specialists are required on an ongoing basis between now and June 2004. Rotations are generally of 1-month duration including Force Preparation Training (Table One).

General Surgeons are needed for 13 Oct - 16 Nov and 08 Dec onwards.
Orthopaedic Surgeons are needed for 13 Oct onwards.
There are only five Anaesthetist rotations left:

Table One: Rotation Dates for Timor Leste

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<thead>
<tr>
<th>From</th>
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<tr>
<td>18-August</td>
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<td>26-April</td>
<td>30-May</td>
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<td>24-May</td>
<td>27-June</td>
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</table>

Intensivists are needed for 18 Aug - 21 Sep, and 08 Dec onwards. Enquiries are welcomed for this position from FANZCA, FAFEM and FRACP with experience in stabilising unwell patients.
Aeromedical Evacuation Operations Officers are required from 18 Aug onwards. In addition to ex PAF, enquiries are welcomed from members who have Civilian Aeromedical Evacuation (AME) and AME coordination experience.

Please direct all enquiries to:
WGCDDR K.L. Leshinskis
MBBS, MPH&TM, FAFPHM
Staff Officer Health Operations
Headquarters Health Services Wing
Combat Support Group
RAAF Base Amberley 4063
Tel: (07)54611802
Fax: (07)54611844
Mobile: 0438694466
E-mail: Karen.Leshinskis@DEFENCE.GOV.AU

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andyandlaurabigpond.com

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One hard copy and one electronic copy of the manuscript should be submitted. The typed copy should be typed double-spaced and single-sided on A4 paper. The electronic copy should be on disk or sent by e-mail. The text in both hard and electronic copies should be unformatted. The electronic copy may be in any common word-processor format.

Contributions should be between 500 and 5000 words in length. Letters to the Editor should not exceed 500 words or 10 references. The Editor may consider any contributions outside these limits. Any articles reporting on human subjects involved in experiments must contain evidence of approval by the relevant institutional ethics committee.
The title page should include the article title; list of authors, including details of their full name, military rank, postnominials, position and institutional address; and, preferably, an abstract of the article (150-200 words). Contact details for the principal author, including postal address, e-mail address, telephone and fax numbers, should also be included.

Headings and sub-headings should be consistent throughout the article and conform with articles previously published in the Journal. No text, references, or legends to figures or tables, should be underlined.

Illustrations, figures and pictures should not be embedded in the document. Their intended position, however, should be clearly indicated. Illustrations and pictures should be saved as separate documents in high resolution (300dpi) TIFF or JPEG formats. Tables may be embedded in the paper.

Photographs may be black-and-white or colour. They should be provided in soft-copy, preferably as high resolution (300dpi) TIFF or JPEG files, but may be provided as hard-copy. Slides must be converted to soft-copy graphics files or to photographs.

Abbreviations mean different things to different readers. Abbreviations are only to be used after the complete expression and the abbreviation in brackets has appeared. For example, the Australian Defence Force (ADF) may then be referred to as the ADF.

SI units are to be used for all articles. Any normal ranges should also be included.

References should be in accordance with the "Vancouver" system (see MJA 1991; 155: 197-202, or www.mja.com.au/public/information/uniform.html). References in the text should be numbered consecutively as they are cited and should appear as superscript numbers (e.g. text1). References are collated at the end of the article. Annotation of the references should accord with the abbreviations used in Index Medicus. Where there are seven or more authors, list only the first three then use et al. Authors are responsible for reference accuracy. An example of the reference system is as follows:

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