

We studied whether cigarette smoking affected a soldier's ability to complete basic combat training. Demographic and tobacco use information was collected from a cohort of soldiers before they began training. A list of all graduates was obtained and analysed against the initial questionnaire data. In this prospective study, the smoking group comprised 339 soldiers and the non smoking group comprised 535 soldiers. We found that those soldiers who smoked one or more packets of cigarettes per day were at a greater risk for failing basic combat training (Relative risk = 2.05; P = 0.902). There was no relationship observed between a soldier's education and his ability to complete basic combat training. Our data indicate that smoking one or more packets of cigarettes per day may adversely affect a soldier's ability to complete basic combat training.

Comment: Very interesting, but surely such a study belongs in an education journal.

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Ten Years of Diving-Related Illness in the Royal Navy

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The period from 1 January 1980 to to 31 December 1989 produced a total of 244 training and operational diving accident reports involving Royal Navy and Royal Marines personnel.

Because the incidence figures fluctuated widely year by year, a clear trend over the decade failed to emerge. However, the incidence of Type II decompression sickness, as a percentage of total decompression sickness, was greater in the second half of the decade than in the first, a trend similar to, although more moderate than, recent experience of dysbaric illness amongst sport divers. Student divers were disproportionately highly represented in the statistics, particularly with regard to pulmonary barotrauma and near drowning.

Should Defence Force Personnel receive Influenza Vaccine ?

by

James Ross

The attitude towards Influenza in Australia appears quite different to that of many other countries. Whereas mass immunisations have been conducted in the United States in response to threats of major epidemics, and there is widespread use of the Influenza vaccine in the Defence Forces in Europe and North America, there is little call for it in Australia. There are potential benefits to the defence force from mass immunisation of personnel. Both financial and medical. What is needed is a realistic scrutiny of the costs involved and the benefits accruing from an Influenza vaccination program.

The National Health and Medical Research recommendations for Influenza vaccination in 1991 were:-

A. individuals at greater risk of complications:-

1. Adults and children with chronic debilitating disease, especially those with chronic cardiac, pulmonary, renal and metabolic disorders.
2. Persons over 65 years.
3. Residents of nursing homes and other chronic care facilities.
4. Persons receiving immunosuppressive therapy.

B. Persons engaged in medical and health services, and essential public utilities if these individuals are at increased risk owing to medical disorders such as those above. In the event of a pandemic or other major outbreak, advice should be given about vaccination of staff particularly liable to exposure .

I suppose the Defence Force could be considered a public utility, but this reactive policy is at the mercy of the speed of transmission of the virus through the population and the supply of the vaccine. Even in response to the threat of a pandemic, mass immunisation is not recommended. Mr Brian Howe, the Minister for Health and Community Services, stated on 7 December, 1990 ... " The shortage of influenza vaccine experienced earlier this year gives some indication of the extent of public concern about Influenza and the awareness of the existence of a safe and effective vaccine. It is therefore important that, in implementing a vaccination strategy, the public health professionals, vaccine manufacturers and vaccine recipients understand the aims and objectives of the strategy in reducing the potential for serious morbidity in at risk groups, in promoting the role of natural immunity in the remaining population and in monitoring the efficacy of the vaccine and its potential for side-effects ... " .

When the demand for the vaccine went up, then, the response was not to reassess the recommendations,

but to suppress the demand. This is fair enough, if there is a strong argument for the policy as is. The argument alluded to by Mr Howe was that, despite the existence of a "safe and effective vaccine, natural, herd immunity should be relied on by the general population. Unfortunately, the vaccine is not wonderfully effective; the only epidemics of Influenza experienced at United States Air Force Base Lowry were when there was an antigenic shift in the Influenza virus, resulting in widespread disease in the vaccinated and unvaccinated populations . Theory goes that exposure to Influenza virus provides a stronger antibody response and better resistance to Influenza in the future for the individual, and also provides a pool of relatively protected people who should limit the spread of the virus through the community .

I consider that the arguments for vaccinating the Defence Force, and other working populations as well, are good. Firstly, it is not proposed to vaccinate the entire population; natural immunity would still be present. The extent of natural immunity for it to be effective on a population basis is not really known. The great advantage of reduced morbidity and mortality, is the economic benefit: a cost-benefit analysis for employers shows a cost saving, given certain assumptions. As this would be wholly employer funded, there would be a saving for the health care system, and improved productivity would improve the country as a whole.

A cost-benefit model requires the calculation, in dollar terms, of both expenses due to, and gains from intervention. Calculating human suffering is difficult. The effects are not only to the victim, but also to the family and others directly and indirectly affected by the illness. As such, the benefits in avoided suffering tend to be ignored, and gains underestimated.

Attempts to produce a cost-benefit analysis have been conducted, with varying conclusions. Many assumptions had to be made based on inadequate data.

The incidence of Influenza varies among populations and across years. It is only once every few years that an Influenza epidemic occurs in Australia. If a group is to be vaccinated, the costs may outweigh the benefits three times out of four, but the year of an epidemic could very well tip the balance in favour of the intervention.

At the heart of this Influenza vaccine cost benefit analysis is an estimation to be soundly based. This is an area of research that is crying out for study. A major problem with such research is that it has to continue until an epidemic occurs to be able to get a meaningful assessment of the difference between vaccinated and unvaccinated individuals. Studies estimating a reduction in sickness absence among workers have had to base their estimates on less than optimal information. To give you an idea of the sort of figures that we may be dealing with, I will outline a possible scenario. A mass vaccination campaign in the Defence Force may cost in the vicinity of \$15 per patient- including:- vaccine, materials, facilities, medical staff costs and time lost from work by the employee. If a vaccinated individual had a 0.5 days less in sick leave on average over the Influenza season than an unvaccinated individual, then using pay as a proxy for productivity in Defence Force, there is a saving of around \$75 per person. This level of saving need only be achieved every five years to make it viable, excluding savings to the health system and to human suffering.

The case for vaccination is not watertight by any means. There are problems of adverse reactions,

resistance to vaccination by some personnel, possible loss of herd immunity. However, if there is a desire to lessen the possibility of a marked reduction in the responsiveness of the Australian Defence Force due to an Influenza epidemic, and to reduce the excess morbidity and mortality due to the infection, while actually saving money, then the idea needs to be taken seriously and further investigated.

AMMA Membership List

Sub Lieutenant P.J. Aquilina
Colonel D.D. Beard
Flight Lieutenant R. Bernard
Group Captain R.B. Black
Captain L.B. Brennan
Squadron Leader G.K. Bruce
Colonel P.D. Byrne
Surgeon Lieutenant Commander G.M. Carter
Sub Lieutenant P.U. Carver
Squadron Leader N. Abou-Sief
Squadron Leader T.K. Austin
Lieutenant Commander R.G. Beran
Captain S. Birzer
Flight Lieutenant V.E. Bowden
Squadron Leader W.H. Brook
Lieutenant E.M.G. Burke
Lieutenant J. Canalese
Colonel R.F. Carter
Squadron Leader I.D. Catterson
Lieutenant Commander P.L. Champness
Flying Lieutenant J. Croft
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Colonel D.B. Douglas
Wing Commander M.R. Dugdale
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