

## Impact of Systemic and Cultural Factors on Trade-related Injuries in the Australian Infantry

WR Payne, JT Harvey\*, EL Otago, DA Pascoe

**Introduction:** Knowledge of the incidence, causative factors and mechanisms of injury are fundamental to the development of well justified and focused injury prevention strategies. A review of existing ADF injury databases indicated that they were incomplete and unable to be linked to particular trade task activities. In particular, there was a paucity of data related to the perceived impact of systemic and cultural factors on trade-related injuries. Therefore, the aim of this study was to determine the perceived impact of systemic factors on the incidence of acute and chronic musculo-skeletal injuries in the Australian Infantry.

**Methods:** A total of 2351 Australian Infantry soldiers were surveyed in 2004. The paper-based survey was administered in an anonymous manner to all available personnel from the following battalions: 1 RAR, 2 RAR, 25/49 RQR, 3 RAR, 5/7 RAR, 6 RAR and 9 RQR. A total of 299 survey forms were completed (return rate: 12.7%). The limitations of the low return rate are acknowledged.

**Results and Discussion:** Forty six percent of the respondents had suffered an acute injury in the 12 months prior to the survey and between 16-29%\* reported trade-related acute injuries. Forty six percent of the respondents also reported carrying chronic injuries at the time of the survey and 35% reported having trade-related chronic injuries. Overall, these data equated to 820 acute injuries per thousand persons per year (361 trade related) and 800 chronic injuries per thousand persons (380 trade-related or 580 wholly or in-part attributable to trade-related activities). These rates are approximately equivalent to those calculated from two other ADF sources (the Defence Injury Prevention Program database and EpiTrack), and are an order of magnitude higher than estimates made from Defcare data. When asked about the contribution of three systemic factors to trade-related injuries, 22% of respondents who had incurred acute injuries or who were carrying chronic injuries during the 12-month survey period reported manning levels, 35% reported time pressure, and 29% reported equipment limitations contributed to their injuries. A total of 60% of respondents with trade-related injury believed that at least one of these systemic factors contributed to their injury. In 62% of the reported injuries the respondent thought that no safeguards or preventative strategies were in place. When safeguards or preventative strategies were in place, they were generally perceived not to have failed (86%). Risk taking was thought to have been a contributing factor in almost one third (30%) of cases. Key themes which emerged regarding attitudes to injury within the ADF culture were awareness of injury prevention measures; variation in levels of risk taking and avoidance of risk; concern about the effect of injury on capacity to do the job, including deployment, but no concern regarding income or family relationships; and willingness to report injury in spite of some

concern about repercussions. Those with trade-related injuries tended to perceive higher levels of risk taking, less capacity to avoid risks and greater likelihood of being injured, and were less likely to report injury and more likely to fear repercussions of doing so.

- The uncertainty is due to incomplete information supplied by some respondents.

Email: j.harvey@ballarat.edu.au

## Japanese Encephalitis Vaccination – Limitations of the current vaccine (JE-VAX®) and the Australian Defence Force involvement in the search for an improved vaccine. An overview of the Acambis ChimeriVax™-JE program.

P Nasveld\*, S Bennett, S Shakib, M Reid, J Stone, M Dobson, R Nichols, J Aaskov, S Yoksan, S Kitchener, K McCarthy, T Monath, N Kanesa-thasan, J Marjason

**Introduction:** Japanese Encephalitis (JE) remains an identified vaccine-preventable disease risk for Australian Defence Force (ADF) personnel deploying throughout the endemic region. The licensed vaccine currently in use by the Australian Defence Force (JE-VAX®) has significant limitations for rapid deployment of troops, due to the requirements for a three dose / 30 day regime. It is also costly and likely to be withdrawn by the manufacturer when current stocks are exhausted. The Australian Army Malaria Institute (AMI) has been involved in the Phase 2 clinical program for a promising candidate replacement JE vaccine, called ChimeriVax™-JE being developed by Acambis. The purpose of this presentation is to outline the results of the study series and elaborate on the advantages of live-attenuated single dose JE vaccines over inactivated multidose vaccines for the protection of ADF personnel.

**Methods:** The Phase 2 program of clinical development involved the conduct of three separate double-blind randomised studies by AMI investigators. The first of these was conducted exclusively on ADF personnel and evaluated the immunogenicity, safety and duration of immunity of ChimeriVax™-JE. Follow-up to 2 years has now been completed and the study has been extended to determine the duration of immunity for up to 5 years. The second and third studies of the series were undertaken under a cooperative agreement between Defence and QPharm Pty Ltd, a private clinical studies unit located in Brisbane. These studies set the foundation for collaboration in clinical research being undertaken between Defence and the civilian sector in areas of mutual interest. The first of these collaborative studies involved the assessment of interactions between ChimeriVax™-JE and the closely related licensed Yellow Fever 17-D vaccine (Stamaril®) on 108 subjects drawn from the civilian community. Again safety and immunogenicity