

# Ross River virus in a joint military exercise

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In support of a large, combined Australia-United States of America military exercise at Shoalwater Bay in south-eastern Queensland during March 1997 (TANDEM THRUST 97), the United States Navy sent the Deployed Public Health Laboratory (DPHL) into the field with the forces. The purpose of this was preventative medicine as well as disease and vector surveillance. Among the numerous potential threats to the health of the troops was Ross River virus (RRV), to which very few of the US personnel would have been previously exposed.

Personnel were educated in protective measures against mosquito biting before the exercise. As troops were to be living in field conditions during the RRV transmission season some cases were expected, particularly in those

personnel remaining in the training area for six weeks, thereby increasing exposure potential.

Of 19 suspected clinical cases, six were diagnosed serologically by the DPHL using IgM enzyme linked immunosorbent assay (ELISA) techniques. Samples were forwarded to the Arbovirus Unit at the Institute of Clinical Pathology & Medical Research (ICPMR), Westmead for virus isolation and confirmation of the serologic tests.

Four cases demonstrated a four-fold or greater increase in neutralising antibody titre, and the other two cases demonstrated seroconversion by neutralisation. Ross River virus was isolated from the acute phase samples in these two cases. These are the first reports of RRV isolation from humans in 1997.

Mosquitos were collected in the area during the exercise and were forwarded to the Department of Medical Entomology, ICPMR, for species identification and arbovirus isolation. Almost 40,000 mosquitoes have been processed; at least 40 species have been identified, with *Aedes vigilax* and *Culex annulirostris* the most abundant. To date, RRV has been isolated from pools of *Ae. vigilax*, *Ae. funereus*, *Ae. procax* and *Cx. annulirostris*.

A large-scale post-deployment serosurvey is currently underway to establish whether inapparent RRV infections occurred during the exercises. The final results of these studies will be formally published elsewhere when available.

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