

# **Exposure to anthrax vaccination and pyridostigmine bromide (PB) tablets as associated with geographic location during the First Persian Gulf War**

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## **Abstract**

Data from over 600 Reserve Component Persian Gulf War veterans were analyzed to assess associations between anthrax vaccination, receipt of pyridostigmine bromide tablets, gender, ethnic minority status, ground force status, and rank with geographic location during the months of January and March 1991. Substantial associations were detected. Veterans who had deployed forward on land were more likely to report anthrax vaccination, use of pyridostigmine bromide tablets, to be ethnic minorities, to be females (in selected areas), and to be ground or land forces (Army or Marine Corps assets). Substantial associations were also found between anthrax vaccination and use of PB tablets with being a member of land/ground forces. Furthermore, anthrax vaccination was strongly associated with use of PB tablets. Use of PB tablets but not anthrax vaccination was associated with being near the suspected Khamisiyah nerve agent plume. Implications for future multivariate research into potential causes of Gulf War illnesses are discussed.

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*Keywords:* Gulf War illnesses, Persian Gulf War, Anthrax Vaccination, Pyridostigmine Bromide, Gender, Geographic Location

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