

Table 1. Anti-HTLV-III* antibodies in sera from Taiwan residents in high risk groups[†]

Risk Groups	Number tested	Number positive
Homosexuals	12	0
Drug abusers	34	0
Prostitutes from venereal disease clinic	68	1 [‡]
Blood donors	40	± 1 [‡]
HTLV-I positive patients	9	0
TOTAL	163	1

*By ELISA, Litton-Bionetics

[†]Reported by CY Chuang, et al. National Taiwan University, Taipei, Taiwan.

[‡]Negative for HTLV-III antibodies when repeated using Abbott ELISA test kit.

Suboptimal Response to Hepatitis B Vaccine in Adults after Gluteal Injection

Hepatitis B vaccine is a highly immunogenic and effective vaccine against hepatitis B virus infection in both adults and infants. Two recently published reports, however, showed only 82 percent and 68 percent of normal adults responded to hepatitis B vaccine (Merck, Sharp & Dohme).^{1,2} Investigation of these and other reports by the vaccine manufacturer and the U.S. Centers for Disease Control (CDC) confirmed suboptimal vaccine response rates but failed to identify any specific cause. The investigations did indicate, however, that in many instances the vaccine had been given in the gluteal *rather than* the deltoid region.³ Two recent retrospective telephone surveys were conducted among patients of hospitals or hemodialysis units which vaccinated and tested persons after vaccination. One study was conducted by CDC and the other by the vaccine manufacturer. Both indicate vaccine injection site may be an important factor influencing vaccine response. In both surveys, vaccine response rates were significantly higher in hospitals using deltoid rather than gluteal injections (Tables 2 and 3).

These studies are the first to indicate that response to any inactivated vaccine given intramuscularly to adults may vary with injection site. The physiologic reasons for lower response rates among vaccinees receiving gluteal compared to deltoid injections are unknown. A possible explanation is that gluteal injections frequently fail to reach muscle and are instead deposited in fat where the vaccine may not be well mobilized. One recent study using CAT scans to measure gluteal fat thickness estimated that when adults are given gluteal injections with a 3.5 cm (1³/₈ inch) needle, 85 percent of injections in men and 95 percent of those in women are deposited in fat rather than muscle.⁴

Until further data become available, the Department of Health recommends that the deltoid region be used as the site for administering hepatitis B vaccine in adults. In infants, the preferred site for hepatitis B vaccination remains the anterolateral thigh.

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