

Half-dose flu shot appears to produce immune response in young, healthy adults

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Individuals younger than 50 who have been previously vaccinated do not appear to have a substantially different immune response to a half-dose of influenza vaccine than to a full dose, according to a report in the December 8/22 issue of Archives of Internal Medicine, one of the JAMA/Archives journals. This suggests that half-dose vaccination in healthy young individuals may be effective in times of vaccine shortage.

"Since 2002, optimum influenza vaccine delivery has been impaired as a result of supply shortages," the authors write as background information in the article. "With the abrupt loss of half the anticipated national influenza vaccine supply in October 2004, the option of using a reduced dose for immunization of healthy, high-priority groups became a critical consideration."

Renata J.M. Engler, M.D., of Walter Reed Army Medical Center, Washington, D.C., and colleagues conducted a randomized clinical trial involving healthy adults age 18 to 64 years. Between November and December 2004, a total of 554 adults received a full dose of trivalent inactivated influenza vaccine and 556 received a half-dose of the vaccine. All had been vaccinated within the past one to three years. Blood samples were taken before and 21 days after vaccination and tested for antibodies against influenza, and participants recorded any symptoms they experienced during this time period.

"Antibody responses to intramuscular half-dose trivalent inactivated influenza vaccine in healthy, previously immunized adults were not

substantially inferior to the full-dose vaccine, particularly for ages 18 to 49 years," the authors write. In addition, from November 2004 through March 2005, rates of medical visits for respiratory or cardiovascular reasons were no different between those vaccinated with a full dose or with a half dose. "Given the benefits of immunizing healthy working adults and caregivers, these data support the validity of a dose reduction strategy in the setting of vaccine shortages."

"Reduced dosing could have a significant impact on the response to vaccine shortages, particularly at a local level when faced with considerable delays in vaccine supply delivery," they continue. Because half-doses were associated with fewer side effects, reducing dosage could also make vaccination more acceptable, particularly among groups of people who experience more adverse effects.

Women of all ages had a greater response to both doses of the vaccine than men. In fact, women receiving a half-dose of vaccine had similar antibody responses to men receiving a full dose. "These findings suggest that guidelines for vaccine use during shortages should take sex as well as age into consideration," the authors write. "As recommendations for influenza immunization expand and evidence that elderly persons (men older than 60 years) may require higher doses of vaccine for optimal responses, reduced doses in healthy, younger populations may become a valuable national strategy."

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