



CD Connection

Orange County Communicable Disease News

Health Care Agency/Public Health Services - Epidemiology

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VARICELLA – OLD DISEASE, NEW ISSUES

- **Background:** High immunization rates in the U.S. using the one-dose immunization strategy have led to a 71-84% decrease in reported varicella cases, an 88% decrease in varicella-related hospitalizations, and a 92% decrease in varicella-related deaths in 1-4 year old children.¹ Over the past several years outbreaks have been reported among highly immunized populations of school children. Postlicensure studies indicate that one dose of varicella vaccine is about 80-85% effective against any varicella disease.² A recent study noted that vaccine-induced immunity to varicella waned over time. The annual rate of breakthrough varicella increased from 1.6 per 1000 person-years within one year after vaccination, to 9.0 per 1000 person-years at 5 years, and 58.2 per 1000 person-years at 9 years after vaccination.² Waning of immunity after varicella vaccination may result in increased susceptibility later in life when the risk of severe complications is higher.
- **Breakthrough varicella:** Breakthrough varicella is varicella illness that occurs >42 days after varicella vaccination. It is usually milder than varicella in non-vaccinated persons, with <50 lesions (compared to 250-500 in non-vaccinated persons), lower incidence of fever (10%), and faster recovery.³ **Lesions may not progress to vesicles, and may resemble insect bites. However, persons with breakthrough varicella are still contagious** and should be excluded from school, daycare, work, and/or public gatherings until no new lesions are appearing.
- **Two doses of varicella vaccine now recommended:** The CDC Advisory Committee on Immunization Practices (ACIP) and the American Academy of Pediatrics (AAP) recommend that all persons ≥ 12 months of age, without evidence of immunity, routinely receive two doses of varicella vaccine.
 - **Children 12 months – 12 years of age** should receive two 0.5 ml doses of varicella vaccine subcutaneously, separated by at least 28 days (preferably at least 3 months). The first dose should be at 12-15 months of age and the second dose at 4-6 years of age, but the second dose can be administered at an earlier age.
 - **People ≥ 13 years of age** without evidence of immunity (see definition of immunity in the ACIP Provisional Recommendations or AAP policy statement) should receive two 0.5 ml doses separated by at least 28 days.
 - **A second dose catch-up** varicella vaccination is recommended for children, adolescents and adults who previously had received one dose.

To view the ACIP Provisional Recommendations, see http://www.cdc.gov/nip/recs/provisional_rec/. To view the AAP policy statement, see <http://www.cispimmunize.org/pro/pdf/Varicella-040907.pdf>.
- **Supply difficulties expected with MMRV.** See <http://www.cdc.gov/nip/news/shortages/default.htm> for more information. Merck expects that the supply of Varivax will be adequate for implementation of the recommendation for the 2nd dose of varicella vaccine. Vaccine providers should begin transitioning from MMRV (ProQuad) to MMR and Varivax according to their current supply of vaccine.
- **Report outbreaks or clusters of chickenpox, including breakthrough cases,** to Orange County Public Health at 714-834-8180.

Public Health Preparedness News...

- State launches public health preparedness website for the public: www.bepreparedcalifornia.ca.gov.
- DVD available to train health care workers who are not respiratory care specialists to provide basic respiratory care and ventilator management to adult patients in any mass casualty event. For a free copy, call 1-800-358-9295 or e-mail ahrqpubs@ahrq.hhs.gov.

References

1. "Prevention of Varicella: Recommendations for Use of Varicella Vaccines in Children, including a Recommendation for a Routine Two-Dose Varicella Immunization Schedule." Available at <http://www.cispimmunize.org/pro/pdf/Varicella-040907.pdf>.
2. Chaves SS, Gargiullo P, Zhang JX et al. Loss of Vaccine-Induced Immunity to Varicella over Time. *N Engl J Med* 2007;356:1121-9.
3. American Academy of Pediatrics. *Red Book: 2006 Report of the Committee on Infectious Diseases*. 27th ed., p. 711-725. Info on chickenpox available at www.ochca.com/epi and <http://www.cdc.gov/nip/diseases/varicella/faqs-clinic-disease.htm>.

For comments or suggestions on the newsletter, contact Dr. Michele Cheung at (714) 834-8180.

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