

Updated Recommendation from the Advisory Committee on Immunization Practices (ACIP) for Revaccination of Persons at Prolonged Increased Risk for Meningococcal Disease



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The Advisory Committee on Immunization Practices (ACIP) recommends quadrivalent meningococcal conjugate vaccine, (MCV4) (Menactra, Sanofi Pasteur, Swiftwater, Pennsylvania) for all persons aged 11--18 years and for persons aged 2--55 years at increased risk for meningococcal disease (1--3). MCV4 is licensed as a single dose. Because of the high risk for meningococcal disease among certain groups and limited data on duration of protection, at its June 2009 meeting ACIP recommended that persons previously vaccinated with either MCV4 or MPSV4 (Menomune, Sanofi Pasteur) who are at prolonged increased risk for meningococcal disease should be revaccinated with MCV4. Persons who previously were vaccinated at age ≥ 7 years and are at prolonged increased risk should be revaccinated 5 years after their previous meningococcal vaccine, and persons who previously were vaccinated at ages 2--6 years and are at prolonged increased risk should be revaccinated 3 years after their previous meningococcal vaccine. Persons at prolonged increased risk for meningococcal disease include 1) persons with increased susceptibility such as persistent complement component deficiencies (e.g., C3, properdin, Factor D, and late complement component deficiencies), 2) persons with anatomic or functional asplenia, and 3) persons who have prolonged exposure (e.g., microbiologists routinely working with *Neisseria meningitidis*, or travelers to or residents of countries where meningococcal disease is hyperendemic or epidemic). This report provides the rationale for the new recommendation and updates and replaces previous recommendations for revaccination with MCV4.

ACIP's Meningococcal Vaccine Work Group reviewed data on the risk for meningococcal disease, antibody titer decline, and the safety and immunogenicity of revaccination with MCV4 at 3 years and 5 years after the first dose of MCV4 or MPSV4 (2,3). Persons with prolonged increased risk for meningococcal disease have increased susceptibility to the disease or ongoing increased risk for exposure to *N. meningitidis*, higher levels of serum bactericidal antibody (SBA) against *N. meningitidis* can provide these groups increased protection against disease. SBA is a measure of the ability of sera to kill a strain of *N. meningitidis* in the presence of complement. In clinical trials, a baby rabbit SBA titer of 1:128 was used as a conservative correlate of protection (1). Small subsets of subjects from the MCV4 prelicensure clinical trial were revaccinated 3 years ($n = 76$) and 5 years ($n = 134$) after receiving MCV4. Of 71 persons aged 11--18 years at primary vaccination who had been vaccinated with MCV4 3 years previously, 75% and 86% had SBA titers greater than 1:128 for serogroups C and Y, respectively, before revaccination. Of 108 persons aged 2--10 years at primary vaccination who had been vaccinated with MCV4 5 years previously, 55% and 94% had SBA titers greater than 1:128 for serogroups C and Y, respectively, before revaccination. All persons revaccinated with MCV4 in these studies achieved SBA titers greater than 1:128 for serogroups C and Y. Approximately 50%--70% of persons in

both the previously vaccinated (n = 210) and vaccine naive groups (n = 323) reported mild to moderate local and systemic adverse events after revaccination (or initial vaccination) with MCV4. However, no serious adverse events were reported in either group (Sanofi Pasteur, unpublished data, 2009).

On the basis of these data, expert opinion of the workgroup members, and feedback from partner organizations, the workgroup proposed that persons at prolonged increased risk for meningococcal disease be revaccinated with MCV4. ACIP approved this proposal at its June 24, 2009, meeting. Persons who previously were vaccinated at age ≥ 7 years and are at prolonged increased risk should be revaccinated 5 years after their previous meningococcal vaccine. Persons who previously were vaccinated at ages 2--6 years and are at prolonged increased risk should be revaccinated 3 years after their previous meningococcal vaccine. Persons who remain in one of these increased risk groups indefinitely should continue to be revaccinated at 5-year intervals.

Although the duration of protection from MCV4 is unknown, most entering college students will have received MCV4 within the preceding 4 years. Because of the limited period of increased risk, ACIP currently does not recommend that college freshmen living in dormitories who were previously vaccinated with MCV4 be revaccinated. However, college freshmen living in dormitories who were vaccinated with MPSV4 ≥ 5 years previously are recommended to be vaccinated with MCV4. Information regarding MCV4 and other recommendations for persons aged 2--55 years (2,3), including a routine recommendation for vaccination with MCV4 in persons aged 11--18 years (4), has been published previously.

References

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