

Varied immunity by age five in children vaccinated with serogroup B meningococcus as babies

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Young children who received the 4CMenB vaccine as infants to protect against serogroup B meningococcal disease had waning immunity by age 5, even after receiving a booster at age 3 ½, according to new research in *CMAJ (Canadian Medical Association Journal)*

Serogroup B meningococcal disease is the leading cause of meningitis and [blood infections](#) in developed countries. Infants and [young children](#) under the age of 5 years are especially at risk, and there is a second peak of cases in the late teenage years.

The multicomponent serogroup B meningococcal (4CMenB) vaccine aims to prevent most cases of serogroup B meningococcal disease and is licensed for use in the European Union, Australia and Canada. In 2014, it was recommended for inclusion in the UK's routine childhood vaccination schedule, and a vaccine campaign using 4CMenB targeting all those under 20 years of age was recently run in the Saguenay-Lac-Saint-Jean region of Quebec. However, the Public Health Agency of Canada currently recommends vaccination only for those in defined high-risk groups.

The study, by researchers from the University of Oxford, United Kingdom, and Novartis, the [vaccine manufacturer](#), looked at antibody levels against 8 strains of serogroup B meningococcus in 5 year-old children who had been vaccinated with the 4CMenB vaccine in early

childhood and received their last dose 20 months previously. They found that of children who received the vaccine at age 2, 4, 6, 12 and 40 months, 44%-88% still had protective antibody titres against strains that were directly matched to the vaccine. For children vaccinated later (at ages 40 and 42 months), the percentage with protective antibody titres 20 months after their last dose ranged from 31% to 100%. The study also looked at the side effect profile of giving the vaccine at 5 years of age and found that though pain at the site of the vaccination was common, rates of fever were lower than those in younger [children](#).

"These results...provide important new information about how the persistence, at 5 years of age, of bactericidal activity induced by administration of 4CMenB vaccine differs between test strains and with different vaccination schedules," write the authors.

"Introduction of the 4CMenB vaccine into the UK's routine immunization schedule provides an ideal opportunity to assess the effect of this vaccine in a real-world setting and will guide the implementation of 4CMenB vaccination in Canada and worldwide."

More information: *Canadian Medical Association Journal*,
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