



# Meningococcal vaccination for college freshmen

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**TO THE EDITOR:** Recently an article appeared in the *Cleveland Clinic Journal of Medicine* dealing with the question of whether all college-bound freshmen should receive meningococcal vaccine.<sup>1</sup> The author, Steven M. Gordon, MD, comprehensively analyzed the increased risk of freshmen contracting a meningococcal disease. He describes the quadrivalent meningococcal vaccines (covering the serogroups A, C, Y, and W-135) available in the United States and gives a lot of arguments for vaccination.

Later on, however, the author quotes some arguments against vaccination, which in my opinion lead in the wrong direction.

- Dr. Gordon states that the cost of routine vaccination (\$54 to \$88 per individual) for an estimated 2 million incoming freshmen (1.5 million of whom may not live in dormitories) and 500,000 freshmen already living in dormitories would be prohibitive.

Why should that price be prohibitive? The author himself states that the incidence of meningococcal disease in freshmen is extremely high, even higher than in children under 2 years of age. Therefore, one may expect that vaccination would be well accepted.

- Dr. Gordon states that vaccination does not eliminate risk, because it offers no protection against serogroup B and its efficacy is less than 100% for the covered serogroups.

It is true that the currently available meningococcal vaccines do not protect against *Neisseria meningitidis* serogroup B, but they are effective against serogroups A, C, Y, and W-135. Is the failure of the vaccine to protect against one serogroup a reason to abstain from protecting against the others?

In addition, there is not a single vaccine that is effective in 100% of recipients; therefore, this never can be an argument against vaccination.

- Dr. Gordon states that the overall public health impact would be minimal, since only 5% of all cases occur in college students.

Independent of the overall public health effect, a considerable number of cases can be prevented in young students.

- Dr. Gordon states that antibody levels decline rapidly over 2 to 3 years, and that revaccination would have to be considered for those vaccinated for other reasons 3 to 5 years earlier.

Indeed, the antibody level decreases within 3 years after vaccination with plain meningococcal polysaccharide vaccines. But progress has been made in recent years, and new meningococcal serogroup C conjugate vaccines have been developed and have already been licensed in several countries. The new meningitis C conjugate vaccines induce higher antibody titers and offer long-term protection by immunologic memory. Therefore, these new meningitis C conjugate vaccines should be used as soon as possible in persons at high risk for meningococcal disease. An additional vaccination with a quadrivalent meningococcal vaccine will boost the immune response to serogroup C and will also protect against serogroups A, Y, and W-135.

The absence of a vaccine against meningitis B cannot be an argument not to vaccinate against the other meningococcal serotypes. New meningococcal conjugate vaccines against other serotypes than meningitis C are in development, but I would reject the overzealous touting of candidate vaccines to the exclusion of the public health measures that are available now.

Therefore, I strongly recommend the use of the new meningitis C conjugate vaccine and the "old" *N meningitidis* combination vaccines, consisting of plain polysaccharides. As soon as further conjugate vaccines for the other serotypes than meningitis C have been developed, these new conjugates should replace the plain polysaccharide vaccines.

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## REFERENCES

1. Gordon SM. Should all college-bound freshmen receive meningococcal vaccine? *Cleve Clin J Med* 2001; 68:9-10.