Preventing varicella: Recommendations for routine two-dose varicella immunization in children

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ABSTRACT

All Canadian provinces and territories have had routine immunization programs for one-dose varicella vaccination since 2007, a strategy that has reduced varicella disease rates dramatically. However, breakthrough cases still occur, and some cases are severe. There is increasing evidence that immunity to one dose of the vaccine can wane in a vaccinated population, and the disease may be shifting to an older age group that can experience more severe disease and more complications. This statement presents the rationale for a two-dose immunization strategy in Canada, as well as recommendations for a routine two-dose varicella vaccine schedule for all Canadian children. Children who have received one dose of varicella vaccine and have not had breakthrough infection should receive another dose of varicella vaccine.

Key Words: Adolescent; Canada; Canadian Paediatric Society vaccine recommendations; Children; Immunization, Vaccine schedule; Varicella vaccine

RECOMMENDATIONS

The levels of evidence reported in these recommendations have been described using the evaluation of evidence criteria outlined by the Canadian Task Force on Preventive Health Care. The Canadian Paediatric Society recommends the following:

- Healthy children 12 months to 12 years of age should receive two doses of varicella-containing vaccine for primary immunization (A-III). The second dose of varicella vaccine may be given three months or longer after the first varicella immunization. The second dose should be given at four to six years of age to minimize risk of infection resulting from waning immunity, or until all provinces and territories have universal programs in place, or until more data on the best scheduling option are available.
- The first dose of a varicella-containing vaccine should be given between 12 and 18 months of age.
- Susceptible adolescents 13 years of age and older should continue to receive two doses of varicella vaccine four weeks apart.
- Children who have received one dose of varicella vaccine should be immunized with a second dose if they have not developed breakthrough disease.
- Canadian physicians should advocate for universal funding and integration of this two-dose regimen into provincial and territorial programs to ensure equitable access for all Canadian children.
- Prenatal assessment of women for evidence of varicella immunity is recommended. Women who do not have evidence of varicella immunity should be vaccinated once they are no longer pregnant.
- Further research should be conducted in Canada to determine:
 - Duration of vaccine-induced varicella immunity, and requirements for future boosters
 - Relative contributions of primary and secondary vaccine failure
 - Optimal spacing of the two doses
 - Varicella surveillance and vaccine coverage rates in Canada.

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