

Publicly Funded Immunization Schedules for Ontario – January 2009

Information for Physicians/Health Care Providers

Questions and Answers

Information regarding the revised *Publicly Funded Immunization Schedules for Ontario*

The Public Health Division, of the Ministry of Health and Long-Term Care, has revised the *Publicly Funded Immunization Schedules for Ontario (Schedules)* to accommodate the addition of human papilloma virus vaccine and Menactra® (for high-risk), changes to the high-risk schedules and a change to the timing of the booster dose of pneumococcal conjugate vaccine.

In addition, a new table has been added for unimmunized adults.

The following explains the key changes that have been incorporated in the *Schedules*.

Can Tdap (tetanus, diphtheria, acellular pertussis) vaccine be given to seven-year-olds who missed their four- to six-year-old booster dose of DTaP-IPV?

Yes. For children seven years and older who missed their four- to six-year-old booster dose of DTaP-IPV (Quadracel®), Tdap (Adacel®) plus IPV (inactivated poliovirus) vaccine should be given. This is consistent with the *Canadian Immunization Guide, 2006, 7th edition*.

Can Tdap vaccine be given to unimmunized children seven to 17 years old?

Yes. Unimmunized children/adolescents beginning their primary series between seven and 17 years of age should receive three doses of Tdap plus IPV (separate needle, separate syringe, and separate injection site).

When should adolescents receive Tdap (Adacel®) vaccine?

Under the publicly funded immunization program, it is recommended that adolescents aged 14 to 16 years of age receive Tdap (Adacel®) vaccine ten years after the four- to six-year-old booster of DTaP-IPV.

Why has the human papillomavirus (HPV) vaccine been added to the *Schedules* when it is given in school-based clinics?

HPV vaccine is added to the *Schedules* to inform you of the eligibility criteria and the schedule for this new vaccine.

Why is the HPV (Gardasil®) dosing schedule (zero, two, and six months) different from the zero, one, and three months (12 weeks) used for some school programs?

The zero, one, and three months (12 weeks) dosing for HPV vaccine is an alternate schedule that allows for administration of a complete vaccination series within the time constraints of a school year.¹

What about Grade 8 females who are not attending school or who missed the school HPV vaccine clinic?

Grade 8 females who missed the school HPV vaccination clinics should contact their local public health unit for information on how to obtain the vaccine.

What if a Grade 8 female started her HPV vaccine series late in the grade 8 school year and was unable to finish the HPV vaccine series in the school clinics provided?

The eligibility timelines for the HPV vaccine have been extended. If a grade 8 female receives at least one dose of the HPV vaccine prior to entering grade 9 (i.e., prior to September 1, 2008), then she may complete the outstanding doses of the HPV vaccine series during her grade 9 school year and before September 1, 2009. Grade 8 females who wish to receive the HPV vaccine should contact their local public health unit for more information.

¹ Merck Frosst. Gardasil® product monograph, January 22, 2008.

Note: for more detailed information, please consult the *Canadian Immunization Guide, 2006, 7th edition*, Public Health Agency of Canada, and the manufacturer's product monograph.

Why is the varicella vaccine scheduled to be given at 15 months of age?

In Ontario, susceptible children between 12 and 15 months of age are eligible to receive a single dose of the varicella vaccine. In the *Schedules*, varicella vaccine administration is scheduled at 15 months of age to accommodate the administration of two vaccine injections per visit. Also, a U.S. study found varicella vaccine effectiveness was greater when given at 15 months of age or older.²

Why has the high-risk criteria for varicella vaccine changed?

The change is consistent with new findings from studies and recommendations consistent with the *Canadian Immunization Guide (CIG) 2006, 7th edition*. Due to the complexity of the recommendations, please consult the current CIG and Guide errata and clarifications, March 2008³ and any newer updates for details.

Why is it recommended that the second dose of measles, mumps and rubella (MMR) vaccine be given at 18 months of age?

This brings the timing of the second dose of MMR in line with the majority of other provinces/territories across Canada. Also, the administration of the second dose at 18 months of age will ensure better protection of children at a younger age.

Can the MMR and the varicella vaccines be administered at the same clinic visit?

Yes. The MMR and varicella vaccines are both live vaccines. These two vaccines may be administered at the same time, at separate injection sites and in separate syringes. **However**, if the varicella vaccine and the MMR vaccine cannot be administered at the same time, they must be administered at least **28 days** apart.

Why has the cutoff year for immunity to measles changed from 1957 to 1970?

This change in the cutoff year from 1957 to 1970 assumes that adults born prior to 1970 have immunity to measles. The change was made based on the epidemiology of the

disease in Ontario, and the vaccines available in 1970. A cutoff year of 1970 will be consistent with other Canadian public health jurisdictions. In Ontario, a live measles virus vaccine became available free of charge in 1970, although the vaccine was commercially available in 1963.

Measles was still endemic, but the incidence of disease was decreasing in the 1970s. After MMR vaccine became publicly funded in 1975 for one-year-olds, the number of cases of measles fell ten-fold. A resurgence of the disease in the early 1990s, led to the introduction of a two-dose MMR schedule in 1996.

The National Advisory Committee on Immunization (NACI) recommends the Meningococcal-C conjugate vaccine for children starting at two months age. Why is the ministry providing one dose at one year of age instead?

In Ontario, from 1999 to 2004, there have been only two cases of invasive meningococcal disease group C (IMD-C) in this age group, and no deaths; the incidence of disease has been much higher in the adolescent age group. In a recent study (DeWals et al., 2006⁴), a routine one-dose immunization strategy against IMD-C was found to be more cost effective than the routine administration of two or three doses of the Men-C conjugate vaccine in infancy.

Parents who prefer to have their children vaccinated starting at two months of age, should purchase the vaccine privately for the infant schedule.

Children immunized in infancy should receive another dose of Men-C vaccine at least one year after the last dose in the primary series for enhanced protection against serogroup C IMD.

Why has the timing for the pneumococcal conjugate vaccine booster dose been changed to two months after the last dose of the primary series?

The National Advisory Committee on Immunization (NACI) recommends that the fourth dose of Pneu-C-7 should be given after 12 months of age and at least two months after the third dose. This change is consistent with the current *CIG, 2006, 7th edition*.

² Vásquez M, LaRussa PS, Gershon AA, et al. Effectiveness over time of varicella vaccine. *JAMA* 2004; 291(7): 851-855.

³ Canadian Immunization Guide 2006 errata and clarifications, March 2008. Available at: <http://www.phac-aspc.gc.ca/publicat/cig-gci/errata-eng.php>

⁴ DeWals P, Trottier P, Pepin J. Relative efficacy of different immunization schedules for the prevention of serogroup C meningococcal disease: a model-based evaluation. *Vaccine* 2006; 24:3500-3504.

Why were changes made to the reimmunization criteria for pneumococcal polysaccharide vaccine?

The criteria and timing for reimmunization for pneumococcal polysaccharide vaccine were changed to be consistent with the current *CIG 2006, 7th edition*.

What are the new additions to the high-risk eligibility criteria for pneumococcal vaccine?

The high-risk eligibility criteria for pneumococcal vaccine now includes children less than five years old attending child care centres and/or children less than five years old of First Nations origin.

What are the new high-risk eligibility criteria for the meningococcal ACYW-135 conjugate vaccine?

The meningococcal ACYW-135 conjugate (Men-C-ACWY) vaccine is now publicly funded for persons two to 55 years of age with the high-risk conditions as specified on the 2008 *Schedules*. Please refer to the *Schedules* for details.

Why is the Men-C-ACWY vaccine only available for eligible persons with specified high-risk conditions who are between two and 55 years of age?

Men-C-ACWY (Menactra[®]) is currently licensed in Canada for persons two to 55 years of age. Vaccine efficacy of the Men-C-ACWY was assessed by demonstrating non-inferiority to Menomune[®], a quadrivalent polysaccharide meningococcal vaccine. Vaccine efficacy for the polysaccharide vaccine is lower in the two to 10 age group than older ages.⁵

Why is a dose of Men-C recommended for high-risk children two to 10 years of age who are eligible to receive the Men-C-ACWY vaccine?

NACI recommends that children two to 10 years of age who meet the eligibility criteria for Men-C-ACWY should also receive a dose of Men-C vaccine because the immune response to Menactra[®] is lower in this age group than at older ages.⁶ If the child has already received a dose of Men-C vaccine at one year of age, Men-C-ACWY will boost the immune response for serogroup C, and another dose is not required.

Why has Pentacel[®] been replaced by Pediacel[®]? Will Pentacel[®] still be available?

Pediacel[®] comes in one ready-to-use vial; no reconstitution is necessary. Pediacel[®] antigens and their concentrations are the same as those in Pentacel[®]. Immunogenicity and safety of Pediacel[®] were shown to be comparable to Pentacel[®] in clinical trials. Once Pentacel[®] stock is exhausted, Pediacel[®] will fully replace Pentacel[®].⁷

Are Pentacel[®] and Pediacel[®] interchangeable, so that if an infant begins the primary series of DTaP-IPV-Hib with Pentacel[®], can they finish with Pediacel[®]?

The three types of the poliovirus strains in Pediacel[®] are identical to those in Pentacel[®] except they are grown in Vero monkey kidney cell lines. There have been no studies directly examining their interchangeability for the two-, four- and six-month immunizations, however, Pentacel[®] and Pediacel[®] have demonstrated similar immunogenicity. NACI recommends that the primary immunization series should, wherever possible, be completed with the same combination product, but if Pentacel[®] is not available the series should be completed with Pediacel[®].⁸

What are the new recommendations for children receiving influenza vaccine?

Previously unvaccinated children under 9 years of age require two doses of influenza vaccine given 4 weeks apart. Eligible children under 9 years of age who have properly received one or more doses of influenza vaccine in the past are recommended to receive one dose per season thereafter.⁹

⁵ NACI. Statement on conjugate meningococcal vaccine for serogroups A, C, Y and W135. *CCDR* Vol. 33; May 1, 2007.

⁶ NACI. Statement on conjugate meningococcal vaccine for serogroups A, C, Y and W135. *CCDR* Vol. 33; 2007.

⁷ NACI. Interchangeability of Diphtheria, Tetanus, Acellular Pertussis, Polio, *Haemophilus Influenzae* Type B Combination Vaccines Presently Approved for Use in Canada for Children < 7 Years of Age. *CCDR* Vol. 31; 2005.

⁸ NACI. Interchangeability of Diphtheria, Tetanus, Acellular Pertussis, Polio, *Haemophilus Influenzae* Type B Combination Vaccines Presently Approved for Use in Canada for Children < 7 Years of Age. *CCDR* Vol. 31; 2005.

⁹ NACI. Statement on Influenza Vaccination for the 2008-2009 season. *CCDR* Vol. 34; July 1, 2008.