

Publicly Funded Immunization Schedules for Ontario – August 2011

Publicly funded vaccines may be provided only to eligible persons and must be free of charge.

SCHEDULE 1. Routine Schedule for Children Beginning Immunization in Early Infancy (Starting at 2 months of age)												
Age at vaccination: Completed months and years	DTaP-IPV ¹ -Hib ²	Pneu-C-13 ³	Rot-1 ⁴	Men-C-C ⁵	MMR ⁶	Var ⁷	MMRV ⁸	Men-C-ACYW ⁹	HB ¹⁰	HPV-4 ¹¹	Tdap ¹²	Inf ¹³
2 months old	■	■	■	■								
4 months old	■	■	■	■								
6 months old	■	■										
12 months old		■ [†]		■	■							
15 months old						■						
18 months old	■	■										
4-6 years old	■ [†]						■ [‡]					
Grade 7 students								■ [§]	■ [§]			
Grade 8 females										■ [§]		
14-16 years old (10 years after 4-6 year old booster)											■ [¶]	
Every year (in autumn)												■ ^{**}

¹DTaP-IPV preferably given at 4 years of age; administer to children <6 years old, see Schedule 3. ²For Pneu-C-13 high risk schedule, see Table 3. ³MMRV preferably given at 4 years of age. ⁴Administered through school-based program. ⁵See Schedule 4 for adult Td immunization. ⁶Previously unimmunized children <9 years receive 2 doses of Inf 4 weeks apart.

Notes:

High risk: For high risk eligibility criteria, please see page 3.

Catch-up: for catch-up schedules, please refer to Schedules 2 and 3.

Interruption of a vaccine series does not require restarting the series, regardless of the length of time elapsed since the last dose.

Up to date immunization records or valid exemptions are required for attendance at school (*Immunization of School Pupils Act*) and licensed daycare centres (*Day Nurseries Act*) in Ontario.

Vaccine Administration:

Never mix and administer different vaccines together in the same syringe unless indicated in the product monograph.

Route of administration:
Intramuscular (IM): DTaP-IPV-Hib, DTaP-IPV, Tdap, Td, HA, HB, HPV-4, Men-C-C, Men-C-ACYW, Inf, and Pneu-C-13.
Subcutaneous (SC): MMR, Var, MMRV, and IPV (if given as a separate antigen).
IM or SC: Pneu-P-23
Oral (PO): Rot-1

Site: For site of administration go to:
http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/D/vacc_admin.pdf

Needle Length: The appropriate size and length of needle for vaccine administration should be based on the age and size of the individual. For IM injections:

- infants <6 months use 7/8 inch (2.2 cm) needle
- children ≥6 months use 1 inch (2.5 cm) needle
- adolescents and adults use 1 inch to 1 ½ inch (2.5cm to 3.8 cm) needle

1. Diphtheria, Tetanus and Acellular Pertussis vaccine – Inactivated Poliovirus Vaccine, (DTaP-IPV)

Routine: The 4-6 year (5th) or school entry dose of DTaP-IPV in Schedules 1 and 2 is not necessary if the 4th dose was given after the 4th birthday. For the infant/primary series, the series should start no earlier than 6 weeks of age. DTaP-IPV (Quadriacel[®]) should **not** be given to children >6 years of age.

Catch-up: Tdap plus IPV should be given separately to children who missed their 4-6 year booster dose of DTaP-IPV.

2. Haemophilus influenzae type b Vaccine (Hib)

DTaP-IPV-Hib (Pediacel[®]) or monovalent Hib. Hib vaccine is not routinely recommended for children ≥5 years of age.

3. Pneumococcal Conjugate 13-valent Vaccine (Pneu-C-13)

Routine: 3-dose schedule at 2, 4 months with a booster dose at 12 months of age for all low risk children <2 years of age.

Catch-up: Unimmunized children <5 years of age remain eligible for Pneu-C-13. See Schedule 2.

One time catch-up for 2011 only: The following children who have completed a primary series of Pneu-C-10 and/or Pneu-C-7 are eligible to receive an additional single dose of Pneu-C-13:

- low risk children <3 years old;
- high risk children <5 years old;
- Aboriginal children <5 years old; or
- children attending group day care <5 years old.

4. Rotavirus ORAL Vaccine (Rot-1)

Routine: 2-dose schedule at 2 and 4 months. 2 doses at least 4 weeks apart should be completed by 24 weeks of age. Although the vaccine manufacturer has indicated that the first dose may be administered as early as 6 weeks and as late as 20 weeks of age, NACI recommends that the first dose be administered between 6 weeks and <15 weeks of age as the safety of providing the first dose of rotavirus vaccine in older infants is not known.

5. Meningococcal Conjugate C Vaccine (Men-C-C)

Routine: Children aged 1 year old should receive a single dose.

Catch-up: Unimmunized persons remain eligible for a single dose of Men-C-C if they were:

- 1 year of age on or after Sept. 2004; or
- born between 1986 and 1996.

6. Measles, Mumps, Rubella Vaccine (MMR)

The 1st dose of MMR should be given **on or after the 1st birthday**. The 2nd dose of MMR vaccine should be given as MMRV at 4-6 years of age.

MMR is a live virus vaccine. MMR and varicella vaccine must be given on the same day or at least 28 days apart.

Adults born prior to 1970 are assumed to have naturally acquired immunity to measles and mumps. Adults born in 1970 or later without evidence of immunity to measles or mumps should receive 1 dose of MMR.

A 2nd dose of MMR is recommended for young adults (18-25 years), post secondary students, persons who received killed measles vaccine (1967-1970), health care workers and those who plan to travel internationally.

All women of reproductive age should have at least 1 documented dose of rubella vaccine **or** serologic evidence of immunity.

7. Varicella Vaccine (Var)

Routine: Children 15 months of age should receive the 1st dose. The 2nd dose should be given as MMRV at 4-6 years of age.

Catch-up: Children born on or after Jan. 1, 2000 **and who are at least 1 year of age** are eligible for 2 doses of varicella vaccine.

Varicella is a live virus vaccine. Varicella and MMR vaccine must be given on the same day or at least 28 days apart.

8. Measles, Mumps, Rubella, Varicella Vaccine (MMRV)

Routine: 1 dose of MMR at 12 months, 1 dose of Var at 15 months and 1 dose of MMRV at 4-6 years of age (preferably prior to school entry).

Catch-up: Children 7-11 years of age who have not received any doses of MMR or varicella may receive 2 doses of MMRV.

MMRV is a live virus vaccine. MMRV and varicella must be given 3 months apart and MMRV and MMR must be given 6 weeks apart.

9. Meningococcal Conjugate ACYW-135 Vaccine (Men-C-ACYW)

Routine: Students in grade 7 are eligible to receive a single dose of Men-C-ACYW.

Catch-up: Since 2009, students who were eligible in grade 7 and have not yet received the vaccine; remain eligible for a single dose of Men-C-ACYW.

10. Hepatitis B Vaccine (HB)

Routine: 2-dose schedule for grade 7 students, given 4-6 months apart depending on the product used.

Catch-up: Any Grade 7 student who missed 1 or both doses of HB is eligible to complete the series by the end of Grade 8.

11. Human Papillomavirus Vaccine (HPV-4)

Routine: All female Grade 8 students receive 3 doses given at 0, 2 and 6 months.

One time catch-up for 2010/2011 school year only: Female students who received at least 1 dose of HPV-4 in their Grade 8 year or before the 1st day of grade 9 may complete the series in Grade 9.

12. Diphtheria, Tetanus and Acellular Pertussis Vaccine (Tdap)/Inactivated Poliovirus Vaccine (IPV)

Routine: A single dose of Tdap is recommended for all adolescents between the ages of 14-16 years old (with eligibility until 18 years of age) and 10 years after the 4-6 year old booster.

Catch-up: Unimmunized children/adolescents beginning their primary series at 7 years of age or older should receive 3 doses of Tdap plus IPV (2 separate injections). The 14-16 year old booster dose should be given at least 5 years after the third dose.

13. Seasonal Influenza Vaccine (Inf)

All individuals aged 6 months and older who live, work or attend school in Ontario are eligible to receive seasonal influenza vaccine.

Previously unimmunized children 6 months to <9 years of age require 2 doses of trivalent inactivated influenza vaccine (TIV), given 4 weeks apart. Children <9 years of age who have received 1 or more doses of TIV in preceding seasons are recommended to receive 1 dose per season thereafter.

Refer to the Canadian Immunization Guide (CIG), 7th edition (2006) (or as current) for additional information regarding recommendations for immunocompromised individuals.

(Available online at: http://www.phac-aspc.gc.ca/publicat/cig-gci/pdf/cig-gci-2006_e.pdf; Guide errata and clarifications, March 2008. Available at: <http://www.phac-aspc.gc.ca/publicat/cig-gci/errata-eng.php>)

For vaccines not publicly funded, please refer to NACI statements, and the individual product monographs for indications and usage.

Available at: <http://www.phac-aspc.gc.ca/naci-ccni/recs-eng.php>

For more information and to report adverse events following immunization (AEFIs) contact your local public health unit at:

To find your local public health unit, go to:
www.health.gov.on.ca/English/public/contact/phu/phuloc_mn.html

Health Protection and Promotion Act

A physician, a member of the College of Nurses of Ontario or a member of the Ontario College of Pharmacists who, while providing professional services to a person, recognizes the presence of a reportable event and forms the opinion that it may be related to the administration of an immunizing agent shall, within seven days after recognizing the reportable event, report thereon to the medical officer of health of the health unit where the professional services are provided.

The National AEFI reporting form and User Guide are available at:
<http://www.phac-aspc.gc.ca/im/aei-form-eng.php>

For more detailed vaccine information, consult the manufacturer's product monograph, *Canadian Immunization Guide*, or the *National Advisory Committee on Immunization* website at:
<http://www.phac-aspc.gc.ca/naci-ccni/index.html>

References:

- National Advisory Committee on Immunization. Statement on Seasonal Trivalent Inactivated Influenza Vaccine (TIV) for 2010-2011, CCDR, Volume 36, ACS-6; August 2010.
- National Advisory Committee on Immunization. Statement on Human Papillomavirus Vaccine, CCDR, Volume 33, ACS-2: February 15, 2007.
- National eligible, due, and overdue guidelines for immunization registries: Draft recommendations from the Canadian Immunization Registry Network Data Standards Task Group. CCDR 15 March 2004 Volume 30 Number 06. Available at: <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/04vol30/dr3006e.html>

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SCHEDULE 2. Catch-up Schedule for Children Starting Immunization at 1-6 years of age											
Timing	DTaP-IPV ¹ -Hib ²	Pneu-C-13 ³	Men-C-C ⁵	MMR ⁶	Var ⁷	MMRV ⁸	Men-C-ACYW ⁹	HB ¹⁰	HPV-4 ¹¹	Tdap ¹²	Inf ¹³
First visit, if child is <4 years of age	■	■	■	■							
First visit, if child is ≥ 4 years of age	■	(■) [†]	(■) [‡]			■					
Second visit, if child is <4 years of age: 1 mos after 1 st visit				■	■						
Second visit, if child is ≥4 years of age: 1 mos after 1 st visit				■							
Third visit: 1 mos after 2 nd visit	■	(■) [†]	(■) [‡]								
Fourth visit: 2 mos after 3 rd visit	■										
Fifth visit: 6-12 mos after 4 th visit	■										
4-6 years old	(■) [*]					■ [§]					
Grade 7							■ [¶]	■ [¶]			
Grade 8 females									■ [¶]		
14-16 years old (10 years after the 4-6 year old booster)										■	
Every year (in autumn)											■ ^{**}

() Depending on age of child, dose may not be needed. *If 4th dose of DTaP-IPV is given on or after the 4th birthday, the 4-6 year old booster dose is not needed. †Administer Hib to children <5 years of age.

[‡]Administer Pneu-C-13 to children <5 years of age. [§]Children between 4-11 years of age are eligible to receive MMRV. [¶]Administered through school-based program. ^{**}Previously unimmunized children <9 years receive 2 doses of Inf 4 weeks apart.

SCHEDULE 3. Schedule for Unimmunized Children/Adolescents Aged 7-17 years										
Timing	Tdap ¹²	Td	IPV	MMR ⁶	Var ⁷	MMRV ⁸	Men-C-ACYW ⁹	HB ¹⁰	HPV-4 ¹¹	Inf ¹³
First visit, if child is <12 years	■		■			■				
First visit, if child is ≥12 years	■		■	■	(■) [*]					
Second visit, if child is <12 years: 2 mos after 1st visit	■		■			■				
Second visit, if child is ≥12 years: 2 mos after 1st visit	■		■	■	(■) [*]					
Third visit: 6-12 mos after 2nd visit	■		■							
Grade 7							■ ^{†,‡}	■ [†]		
Grade 8 females									■ [†]	
10 years after the third visit		■								
Every year (in autumn)										■ [§]

() Depending on age of child, dose may not be needed. *Administer Var to children born on or after January 1, 2000. †Administered through school-based program. ‡Students who missed a dose who were previously in Grade 7 in or after 2009 remain eligible for Men-C-ACYW. Those born in 1996 or before should receive Men-C-C. [§]Previously unimmunized children <9 years receive 2 doses of Inf 4 weeks apart.

SCHEDULE 4. Schedule for Unimmunized Adults Aged 18 years and Older						
Timing	Tdap ¹²	Td	IPV	MMR ⁶	Inf ¹³	Pneu-P-23
First visit, if adult is 18 to 64 years	■			(■) [*]	■	
First visit, if adult is ≥65 years		■		(■) [*]	■	
Second visit: 2 months after 1 st visit			■	(■) [*]	(■) [†]	
Third visit: 6-12 months after 2 nd visit			■	(■) [*]		
Every 10 years thereafter			■			
Every year (in autumn)					■	
A single dose at ≥65 years						■

() Depending on immune status and age of adult, dose may not be needed. *Unimmunized adults or those with unknown polio immunization history who may be exposed to imported wild polio cases and health care workers should receive 2 doses of IPV (4-8 weeks apart) with a 3rd dose 6-12 months later. For recommendations related to travel, go to the PHAC Travel Health page at: http://www.phac-aspc.gc.ca/tmp-pmv/catmat-cmtmv/index-eng.php †A 2nd dose of MMR is recommended for young adults (18-25 years), post secondary students, persons who received killed measles vaccine (1967-1970), health care workers and those who plan to travel internationally.

Detailed Information for the Administration of Specific Vaccines

TABLE 1: Detailed schedule for <i>Haemophilus influenzae</i> type b Conjugate vaccine		
Age at first dose	Primary series	Age at Booster dose ^o
2-6 months	3 doses, 2 months apart	15 to 18 months
7-11 months	2 doses, 2 months apart	15 to 18 months
12-14 months	1 dose	15 to 18 months
15-59 months	1 dose	None

^o The Hib booster dose should be given at least 2 months after the previous dose.

TABLE 2: Detailed LOW RISK schedule for Pneumococcal Conjugate-13 vaccine depending on age at first dose		
Age at first dose	Primary series	Age at Booster dose [*]
2-6 months	2 doses, 2 months apart	12 months
7-11 months	2 doses, 2 months apart	12 to 15 months
12-23 months	2 doses, 2 months apart	None
24-59 months	1 dose	None

* The Pneu-C-13 booster dose should be given at least 2 months *after* the final dose of the primary series.

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TABLE 3: Detailed HIGH RISK schedule for Pneumococcal Conjugate-13 vaccine depending on age at first dose		
Age at first dose	Primary series	Age at Booster dose [†]
2-6 months	3 doses, 2 months apart	15 months
7-11 months	2 doses, 2 months apart	15 months
12-23 months	2 doses, 2 months apart	None
24-59 months	1 dose	None

[†]Children ≥2 years of age, at high risk of invasive pneumococcal disease, should also receive a dose of Pneu-P-23 at least 8 weeks after the Pneu-C-13.

TABLE 4: Detailed schedule for Varicella vaccine for HIGH RISK persons depending on age [‡]	
Age at first dose	Number of doses
12 months-12 years	2 doses, 3 months apart
13 years and older	2 doses, 1 month apart

[‡] Special considerations/restrictions are required for the immunocompromised (see *Canadian Immunization Guide, 7th ed, 2006*). Available at: http://www.phac-aspc.gc.ca/publicat/cig-gci/pdf/cig-gci-2006_e.pdf Guide errata and clarifications, March 2008. Available at: http://www.phac-aspc.gc.ca/publicat/cig-gci/errata-eng.php

TABLE 5: Reimmunization with Pneumococcal Polysaccharide vaccine	
Criteria for Reimmunization	Timing
<p>A single revaccination with Pneumococcal Polysaccharide vaccine is appropriate for those 2 years of age and older with:</p> <ul style="list-style-type: none">functional or anatomic asplenia or sickle cell disease hepatic cirrhosis chronic renal failure or nephrotic syndrome HIV infection immunosuppression related to disease or therapy	<ul style="list-style-type: none">1 dose after 5 years for those 11 years of age or older at the time of initial immunization <p>OR</p> <ul style="list-style-type: none">1 dose after 3 years for those 10 years of age or less at the time of initial immunization

High-Risk Eligibility Criteria

Pneumococcal Conjugate Vaccine and/or Pneumococcal Polysaccharide Vaccine (depending on age)

- Pneumococcal *Conjugate* Vaccine: All children *<5 years of age* should be vaccinated with Pneu-C-13 vaccine as per Schedules 1 and 2.
- Pneumococcal *Polysaccharide* Vaccine: For children <5 years old, the Pneu-P-23 vaccine should be given at least 8 weeks after the Pneu-C-13 vaccine1. All persons **≥2 years of age** with the medical conditions listed below should receive one dose of the Pneu-P-23 vaccine:
 - Chronic respiratory disease (excluding asthma, except those treated with high-dose corticosteroid therapy¹⁻²)
 - Chronic cardiac disease
 - Chronic liver disease (including hepatitis B and C, and hepatic cirrhosis due to any cause)
 - Chronic renal disease, including nephrotic syndrome
 - Diabetes mellitus
 - Chronic cerebrospinal fluid leak
 - Chronic neurologic condition that may impair clearance of oral secretions
 - Asplenia (functional or anatomic), splenic dysfunction, sickle-cell disease and other sickle cell haemoglobinopathies
 - Primary immune deficiency
 - Congenital immunodeficiencies involving any part of the immune system, including B-lymphocyte (humoral) immunity, T-lymphocyte (cell) mediated immunity, complement system (properdin, or factor D deficiencies), or phagocytic functions
 - Other conditions associated with immunosuppression (e.g., malignant neoplasms, including leukemia and lymphoma)
 - Immunosuppressive therapy including use of long-term systemic corticosteroid, chemotherapy, radiation therapy, post-organ transplant therapy, certain anti-rheumatic drugs and other immunosuppressive therapy
 - HIV infection
 - Hematopoietic stem cell transplant (candidate or recipient)
 - Solid organ or islet cell transplant (candidate or recipient)
 - Cochlear implant recipients (pre/post implant)

Pneumococcal Polysaccharide Vaccine

- All residents of nursing homes, homes for the aged and chronic care facilities or wards.
- All persons 65 years of age and older regardless of medical condition.

Meningococcal Vaccines

A. Meningococcal Conjugate C Vaccine (1-10 yrs)

- All persons with functional or anatomic asplenia.
- All persons with complement, properdin, factor D deficiency or primary antibody deficiencies³.
- Cochlear implant recipients (pre/post implant).

B. Meningococcal Conjugate ACYW-135 Vaccine (2-55 yrs)

- All persons with functional or anatomic asplenia.
- All persons with complement, properdin, factor D deficiency or primary antibody deficiencies³.
- Cochlear implant recipients (pre/post implant).

Note: Children should receive Men-C-ACYW at least 1 month from receiving Men-C-C vaccine.

^[1] National Advisory Committee on Immunization. Update on the use of conjugate pneumococcal vaccines in childhood. Canada Communicable Disease Report Volume 36, November 2010. Available at: http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/10vol36/acs-12/index-eng.php

^[2] Compendium of Pharmaceuticals and Specialties, 2005: the Canadian drug reference for health professionals

^[3] National Advisory Committee on Immunization. Update on the invasive meningococcal disease and meningococcal vaccine conjugate recommendations. Canada Communicable Disease Report. Volume 36, April 2009. Available at: http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/09vol35/acs-dcc-3/index-eng.php

^[4] National Advisory Committee on Immunization. Canadian Immunization Guide (CIG), 2006, 7th edition. Public Health Agency of Canada, 2006. Available at: http://www.phac-aspc.gc.ca/publicat/cig-gci/pdf/cig-gci-2006_e.pdf Guide errata and clarifications, March 2008. Available at: http://www.phac-aspc.gc.ca/publicat/cig-gci/errata-eng.php

^[5] National Advisory Committee on Immunization. Updated recommendations for the use of Varicella and MMR Vaccines In HIV-infected Individuals. Communicable Disease Report. Volume 36; ACS-7 September 2010.

C. Meningococcal Polysaccharide ACYW-135 Vaccine (>55 yrs)

- Persons with functional or anatomic asplenia.
- Persons with complement, properdin or factor D deficiency.
- Cochlear implant recipients (pre/post implant).

Varicella Vaccine

- Susceptible children and adolescents given chronic salicylic acid therapy (consider stopping treatment for 6 weeks after vaccination, see product monograph).
- All persons with cystic fibrosis.
- Susceptible household contacts of immunocompromised persons.
- Susceptible persons receiving low dose steroid therapy or inhaled/topical steroids.
- Immunocompromised persons,^{2,3,5} see the *CIG, 7th ed.* (or as current) for varicella vaccination recommendations regarding specified susceptible immunocompromised individuals.

For the recommended number of doses for susceptible high risk persons, see *CIG, 7th ed.*

Hepatitis B Vaccine

- Infants born to HBV-positive carrier mothers.
- Household and sexual contacts of chronic carriers and acute cases.
- Persons on renal dialysis and those with diseases requiring frequent receipt of blood products (e.g., haemophilia) (second and third doses only).
- Persons awaiting liver transplants (second and third doses only).
- Injection drug users.
- Men who have sex with men, individuals with multiple sex partners, history of a sexually transmitted infection.
- Those having needle stick injuries in a non-health care setting.
- Children <7 years old whose families have immigrated from countries of high prevalence for hepatitis B, and who may be exposed to hepatitis B carriers through their extended families.
- Persons with chronic liver disease including hepatitis C.

Hepatitis A Vaccine

- Persons with chronic liver disease (including hepatitis B and C).
- Persons engaging in intravenous drug use.
- Men who have sex with men.

Note: for post exposure immunization with hepatitis A vaccine, consult with your local public health unit on the appropriate requirements based on age and/or immunization history.

***Haemophilus influenzae* type b Vaccine⁴**

- Persons with functional or anatomic asplenia.
- All immunocompromised persons related to disease or therapy.
- Hematopoietic stem cell transplantation (or bone marrow or solid organ transplant) recipients.
- All lung transplant recipients.
- Cochlear implant recipients (pre/post implant).
- All persons with primary antibody deficiencies.³

Note: Case and Contact Management

For all vaccine preventable diseases: Consult with your local public health unit on the case and contact management of vaccine preventable diseases.