

Publicly Funded Immunization Schedules for Ontario – February 2005

Schedule 1: Routine Schedule* for Children Beginning Immunization in Early Infancy (Starting at age <12 mos.)										
Age at vaccination	DTaP – IPV ¹	Hib ²	PneuC 7 ^{3,**}	MMR ⁴	MenC-C ^{5,†}	VZ ^{6,‡}	Hep B ⁷	dTap ⁸	Td	Flu ⁹
2 months old	■	■	■							
4 months old	■	■	■							
6 months old	■	■	■							
12 months old				■	■					
15 months old			■			■				
18 months old	■	■		■						
4-6 years old	■									
12 years old (Grade 7)							Administered in schools			
14-16 years old								■		
Adult years (every 10 years thereafter)									■	
Every autumn										■

* Alternative to schedule (if a 15 month immunization visit is not possible): **12 month visit** – give PneuC 7, MMR, MenC-C, VZ; **18 month visit** – give DTaP-IPV-Hib, MMR;

** PneuC 7 vaccine is available for infants born on or after January 1, 2004 AND those at high risk under 5 years of age; † MenC-C vaccine is publicly funded only for 1 year old OR 12 year old children OR 15 to 19 year old youth AND high-risk persons; ‡ VZ vaccine is publicly funded only for 1 year old OR 5 year old susceptible children AND high-risk persons; for the high-risk program see Schedule 4.

Schedule 2: Catch-Up Schedule for Children Aged 1-6 Years Not Immunized in Early Infancy											
Timing	DTaP – IPV ¹	Hib ²	PneuC 7 ^{3,**}	MMR ⁴	MenC-C ^{5,†}	VZ ^{6,‡}	Hep B ⁷	dTap ⁸	Td	Flu ⁹	
First visit – 1 year old	■	■	■	■	■	■					
First visit – 2-6 years old	■	±■		■							
2 months after 1 st visit – 1 year old	■	■	■	■	OR	OR					
2 months after 1 st visit – 2-6 years old	■			■							
2 months after 2 nd visit	■										
12 months after 3 rd visit	■										
4-6 years old	■					■					
12 years old (Grade 7)					■		Administered in schools				
14-16 years old								■			
Adult years (every 10 years thereafter)									■		
Every autumn										■	

± Administer Hib vaccine to children under 5 years of age (Table 1); ** PneuC 7 vaccine is available for infants born on or after January 1, 2004 AND those at high risk under 5 years of age; † Men C-C vaccine is publicly funded only for 1 year old OR 12 year old children OR 15 to 19 year old youth AND high-risk persons; ‡ VZ vaccine is publicly funded only for 1 year old OR 5 year old susceptible children AND high-risk persons; for the high-risk program see Schedule 4.

Schedule 3: Catch-Up Schedule for Children Aged 7 Years and Over and Adults Not Immunized in Childhood					
Timing	MMR ⁴	Td – IPV ⁸	MenC-C ^{5,†}	Hep B ⁷	Flu ⁹
First visit	■	■ ■			
2 months after 1 st visit	±■	■ ■			
6-12 months after 2 nd visit		■ ■			
Every 10 years thereafter		■			
12 years old (Grade 7)			■	Administered in schools	
15-19 years old			OR ■		
Every autumn					■

± Administer a second dose of MMR vaccine to persons under 18 years of age; † MenC-C vaccine is publicly funded only for 1 year old OR 12 year old children OR 15 to 19 year old youth AND high-risk persons; for the high-risk program see Schedule 4.

Note: DTaP= diphtheria, tetanus and acellular pertussis for children under 7 years of age; IPV= inactivated poliovirus; Hib= *haemophilus influenzae* type B for children under 5 years of age; PneuC 7= pneumococcal 7-valent conjugate; MMR= measles, mumps and rubella; MenC-C= meningococcal C conjugate; VZ= varicella zoster; Hep B= Hepatitis B; dTap= diphtheria, tetanus and acellular pertussis adult/adolescent formulation; Td= tetanus and diphtheria adult type formulation; Flu= influenza vaccine; Pneu PS= pneumococcal polysaccharide vaccine.

See Notes on page 4.

Publicly Funded Vaccines & Eligibility Criteria for High-Risk Persons

Schedule 4. High-Risk Persons – Publicly Funded Vaccines	
Vaccine	Eligible Group
Pneumococcal conjugate vaccine	High-risk children under 5 years of age
Pneumococcal polysaccharide vaccine	Adults 65 years or older, other persons ≥ 2 years old with chronic heart or lung disease and others at high risk
Meningococcal C conjugate vaccine	High-risk persons of all ages
Varicella zoster vaccine	Susceptible high-risk persons of all ages
Hepatitis B vaccine	High-risk persons
Hepatitis A vaccine	Specified high-risk persons

Eligibility Criteria

Pneumococcal Vaccine High-Risk Criteria

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

1. Pneumococcal *conjugate* vaccine: All children *under 5 years of age* with the medical conditions listed below.
2. Pneumococcal *polysaccharide* vaccine: All persons *2 years of age and older* with the medical conditions listed below.

Medical Conditions:

- Chronic respiratory disease (excluding asthma, except those treated with high-dose corticosteroid therapy)
- Chronic cardiac disease
- Cirrhosis or alcoholism
- Chronic renal disease or nephrotic syndrome
- Diabetes mellitus
- Asplenia, splenic dysfunction, sickle-cell disease and other sickle cell haemoglobinopathies
- Chronic cerebrospinal fluid leak
- Primary immune deficiency
- HIV infection and other conditions associated with immunosuppression (malignancies, long-term systemic corticosteroids and other immunosuppressive therapy)
- Solid organ transplant recipients
- Cochlear implant recipients (pre/post implant)

For high-risk children 24-59 months of age, the conjugate vaccine should be given first followed by the pneumococcal polysaccharide vaccine eight weeks later (minimum acceptable time interval is four weeks). See the *National Advisory Committee on Immunization* (NACI) guidelines for the immunization of high-risk children with the pneumococcal vaccines.

B. Pneumococcal Polysaccharide Vaccine

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

Meningococcal C-Conjugate Vaccine High-Risk Criteria

1. All individuals with functional or anatomic asplenia.
2. All individuals with complement, properdin or factor D deficiency.
3. HIV-positive individuals.

Varicella Vaccine High-Risk Criteria

1. Children and adolescents given chronic salicylic acid therapy (consider stopping treatment for six weeks after vaccination, see product monograph).
2. All individuals with cystic fibrosis.
3. Immunocompromised individuals:
 - a) There is no additional or undue risk in immunizing the following individuals:
 - Persons with nephrotic syndrome or those undergoing dialysis who are not taking immunosuppressive medications
 - Persons taking low dose steroid therapy, e.g., less than 2 mg prednisone/kg daily and to a maximum of 20 mg/day for more than two weeks
 - Persons taking inhaled or topical steroids.
 - b) An infectious disease expert should be consulted before immunization of people with congenital transient hypogammaglobulinemia, HIV-infected individuals, and solid organ transplant recipients (vaccine should be given a minimum of four to six weeks before transplantation).
 - c) For special considerations/restrictions regarding the number of required doses and contraindications for other high-risk immunocompromised individuals see the *Canadian Immunization Guide*.

Hepatitis B Vaccine High-Risk Criteria

1. Infants born to carrier mothers.
2. Household and sexual contacts of chronic carriers and acute cases.
3. Persons on renal dialysis and those with diseases requiring frequent receipt of blood products (e.g., haemophilia).
4. Individuals awaiting liver transplants.
5. Intravenous drug users.
6. Men who have sex with men and heterosexuals with multiple sex partners.
7. Those having needle stick injuries in a non-health care setting.
8. 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.
9. Persons with chronic liver disease, including hepatitis C.

Hepatitis A Vaccine High-Risk Criteria

1. Persons with chronic liver disease (including hepatitis C).
2. Intravenous drug users.
3. Men who have sex with men.

For more information, and to report vaccine related adverse events, please call your local public health unit.

For more detailed information about vaccines, please consult the manufacturers' product monographs, the current *Canadian Immunization Guide*, or the *National Advisory Committee on Immunization* website at:

<http://www.phac-aspc.gc.ca/naci-ccni/index.html>

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 [†]
2-6 months	3 doses, 2 months apart	15-18 months
7-11 months	2 doses, 2 months apart	15-18 months
12-14 months	1 dose	15-18 months
15-59 months	1 dose	None

[†] The Hib booster dose should be given at least two months after the previous dose.

Table 2: Detailed schedule for Pneumococcal Conjugate 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	12-15 months
7-11 months	2 doses, 2 months apart	12-15 months
12-23 months ^{xx}	2 doses, 2 months apart	
24-59 months – with high risk conditions	2 doses, 2 months apart	

[†]The pneumococcal conjugate booster dose should be given at least 6 – 8 weeks after the previous dose.

^{xx}Publicly funded vaccine is available only for children born on or after January 1, 2004 AND those at high risk under 5 years of age.

Table 3: Detailed schedule for Pneumococcal Conjugate vaccine when the series has been interrupted		
Age at re-presentation	Completion of primary series	Age at Booster dose
7-11 months 1 previous dose given	2 doses, 2 months apart [†]	One dose at 12-15 months of age ^{^^}
7-11 months 2 previous doses given	1 dose	One dose at 12-15 months of age ^{^^}
12-23 months (born on or after Jan 1, 2004) 1 previous dose given	2 doses, 2 months apart	None
24-59 months with high-risk conditions 1 or more previous dose(s) given	1 dose	None

[†]For children vaccinated at < 1 year of age, the minimum interval between vaccine doses is four weeks.

^{^^}Booster doses to be given at least six to eight weeks after the final dose of the primary series.

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 ^{^^}	1 dose
13 years and older ^{^^}	2 doses, 1 month apart

[^]Special considerations/restrictions are required for those who are immunocompromised (see *Canadian Immunization Guide*).

^{^^}Publicly funded vaccine for **non** high-risk persons is available only for children at 1 year or 5 years of age.

Table 5: Reimmunization with Pneumococcal Polysaccharide vaccine ¹⁰	
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 debilitating cardiorespiratory disease hepatic cirrhosis chronic renal failure or nephrotic syndrome HIV infection and 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 revaccination <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 revaccination

References:

- Canadian Immunization Guide, 6th Edition, 2002
- Statement on the Recommended Use of Pneumococcal Conjugate Vaccine: Addendum, CCDR, Volume 29, ACS-8; September 15, 2003. <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/03vol29/acs-dcc-7-8/acs8.html>

Notes

With the exception of the pneumococcal conjugate vaccine³, interruption of a vaccine series does not require restarting the series, regardless of the length of time elapsed since the last dose.

DTaP-IPV-Hib, DTaP-IPV, dTap, Td, Hep A, Hep B, MenC-C and the pneumococcal vaccines must be given *intramuscularly* (IM).

MMR and VZ must be given *subcutaneously* (SC).

MMR and VZ are live virus vaccines. If not given according to the recommended schedule, MMR and VZ must be given at least 28 days apart or on the same day.

Up-to-date immunization records or valid exemptions are required for attendance at school and licensed day-care centres in Ontario.

Different vaccines should *never* be mixed together and administered in the same syringe, unless stated in the product monograph.

1. Diphtheria, Tetanus and Acellular Pertussis vaccine (DTaP)/Inactivated Poliovirus vaccine (IPV) for children under 7 years of age

The 4-6 year (5th) dose of DTaP-IPV in Schedules 1 and 2 is *not* necessary if the preceding (4th) dose was given after the 4th birthday. The minimum interval between doses is one month.

2. Haemophilus influenzae type b vaccine (Hib)

Act-HIB™ should be reconstituted with DTaP-IPV prior to administration.

For children beginning their infant Hib vaccine series at 3 months of age or older, see Table 1.

Hib vaccine is not routinely recommended for children aged 5 years and over. Use DTaP-IPV if starting the series from 5-6 years of age, and Td - IPV for 7 years of age and older.

3. Pneumococcal conjugate vaccine (PneuC 7)

Routine: This vaccine is available for infants under 2 years of age, who were born on or after January 1, 2004 (see Schedule 1 and Table 2). The booster dose may be given at 15 months of age (at least six to eight weeks after final dose of primary series).

For children whose series has been interrupted, please see Table 3.

High-risk: Children 24-59 months of age should receive 2 doses, eight weeks apart (see Table 2). For high-risk criteria, see page 2.

4. Measles, Mumps, Rubella vaccine (MMR)

Under the *Immunization of School Pupils Act*, all students must have documented receipt of 2 doses of the measles vaccine (generally administered as MMR) given **after the 1st birthday**. The second dose of MMR vaccine should be given at least 28 days after the first dose.

If not given according to the recommended schedule, MMR and VZ must be given at least 28 days apart or on the same day.

Adults (≥ 18 years of age) born after 1956 without evidence of immunity against measles should receive 1 dose of MMR. All women of reproductive age and without evidence of rubella immunity should receive MMR unless they are pregnant.

5. Meningococcal C conjugate vaccine (MenC-C)

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

Catch-up: Unimmunized children aged 12 years (Grade 7) OR youth 15-19 years old may receive a single dose.

High-risk: For high-risk eligibility criteria, please see page 2.

6. Varicella (chickenpox) vaccine (VZ)

If not given according to the recommended schedule, MMR and VZ must be given at least 28 days apart or on the same day.

Routine: Susceptible children 12-15 months of age should receive a single dose.

Catch-up: Susceptible children 5 years of age should receive a single dose.

High-risk: For specific medical conditions of susceptible high-risk persons, see page 2; for the recommended number of doses for susceptible high-risk persons, see Table 4.

7. Hepatitis B vaccine (Hep B)

A two-dose schedule of this vaccine is routinely offered to Ontario school pupils in grade seven. Vaccine is also available for certain high-risk groups including infants born to carrier mothers. For high-risk eligibility criteria, please see page 2.

8. Diphtheria, Tetanus and Acellular Pertussis (adolescent/adult type) vaccine (dTap)/Tetanus, Diphtheria, Inactivated Poliovirus vaccine (Td-IPV) for persons aged 7 and older

A **single** dose of dTap is recommended for all adolescents between 14 and 16 years old who are due for their adolescent booster.

For unimmunized adolescents beginning their primary series between 11 and 18 years of age, one of the 3 doses in the series (of Td-IPV) should be replaced with a single dose of the dTap vaccine plus IPV (2 separate injections).

Adolescent/adult booster doses against poliomyelitis are **not** routinely recommended. However, adolescents/adults who are *unimmunized* should receive a primary series that includes tetanus, diphtheria and polio.

9. Influenza vaccine (Flu)

All Ontario residents aged 6 months and older are eligible to receive publicly funded influenza vaccine yearly. The *National Advisory Committee on Immunization* (NACI) statement on influenza is published annually and is available on the *Public Health Agency of Canada* (PHAC) website (see below).

Children under 9 years of age who have not been previously immunized with influenza vaccine should receive 2 doses at least 4 weeks apart the first season they receive influenza vaccine.

10. Pneumococcal polysaccharide vaccine (Pneu PS)

Pneumococcal polysaccharide vaccine is recommended for all persons 65 years and over, and those ≥ 2 years of age with chronic heart or lung disease, or others who have high-risk medical conditions (page 2). Revaccination is indicated under some circumstances (see Table 5).

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<http://www.phac-aspc.gc.ca/naci-ccni/index.html>