

Appendix 4.4 - An Assessment Tool to Determine the Validity of Vaccine Doses

Note: Refer to the Canadian Immunization Guide and New Brunswick (NB) immunization program directives for recommendations for children not immunized in early infancy or childhood or who are immunized as a part of a catch-up or transition schedule.

Diphtheria, Tetanus, Acellular Pertussis-paediatric (DTaP)				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
DTaP-1	2 months	6 weeks	2 months	4 weeks
DTaP-2	4 months	10 weeks	2 months	4 weeks
DTaP-3	6 months	14 weeks	12 months	6 months
DTaP-4	18 months	12 months	2.5 years	6 months
DTaP-5 / Tdap-5 (1)	4 years	4 years	-----	-----

(1) The fifth dose is **not** required if the fourth dose is given after the fourth birthday. Must be at least 4 years of age.
Note: Children who have received Tdap-IPV as a preschool booster (fourth or fifth dose) do not have to be re-immunized with DTaP-IPV-Hib and/or marked as not meeting school immunization requirements as this product is an acceptable option in the Canadian Immunization Guide.

Haemophilus influenzae type b (Hib) if age of first dose is given between 2–6 months (2) (3)				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
Hib-1	2 months	6 weeks	2 months	4 weeks
Hib-2	4 months	10 weeks	2 months	4 weeks
Hib-3	6 months	14 weeks	12 months	6 months
Hib-4	18 months	12 months	-----	-----

(2) Hib is not routinely recommended for children over 5 years. Number of doses required depends on age at 1st dose. See detailed vaccine Hib schedule Canadian Immunization Guide
(3) Proof of immunization with Hib is not required for entry to NB schools for the first time

Hepatitis B (HB) (4) (5)				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
HB-1	Birth	Birth	2 months	4 weeks
HB-2	2 months	4 weeks	4 months	2 months and 4 months after 1 st dose
HB-3	6 months	24 weeks	-----	-----

(4) Proof of immunization with HB is not required for entry to NB schools for the first time.
(5) Proof of immunization with HB is not required for attendance at day care

Human Papillomavirus – types 6, 11, 16 & 18 (HPV 4) (6) 2 dose schedule				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
HPV 4-1	Grade 7 females	Grade 7 females	6 months	24 weeks (6 months)
HPV 4-2			-----	-----

(6) Proof of immunization with HPV is not required for entry to NB schools for the first time.

Human Papillomavirus – types 6, 11, 16 & 18 (HPV 4) (6) 3 dose schedule

The following groups should continue to receive three doses of HPV vaccine:

- Girls who are Immunocompromised
- Immunocompetent HIV infected girls
- Girls who have not received any dose of HPV vaccine by 15 years of age.

	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
HPV 4-1	Grade 7 females or those born in 1995 and later and as part of a school program	Grade 7 females	2 months	4 weeks (1 month)
HPV 4-2			4 months	12 weeks (3 months) and 24 weeks (6 months) should be between 1st & last dose
HPV 4-3			-----	-----

(6) Proof of immunization with HPV is not required for entry to NB schools for the first time.

Human Papillomavirus – HPV 9 (6) - 2 dose schedule

	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
HPV 9-1	Grade 7	Grade 7	6 months	24 weeks (6 months)
HPV 9-2			-----	-----

(6) Proof of immunization with HPV is not required for entry to NB schools for the first time.

Human Papillomavirus – HPV 9 (6) - 3 dose schedule

The following groups should continue to receive three doses of HPV vaccine:

- Individuals who are Immunocompromised
- Immunocompetent HIV infected individuals
- Individuals who have not received any dose of HPV vaccine by 15 years of age

	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
HPV 9-1	Grade 7	Grade 7	2 months	4 weeks (1 month)
HPV 9-2			4 months	12 weeks (3 months) and 24 weeks (6 months) should be between 1st & last dose
HPV 9-3			-----	-----

(6) Proof of immunization with HPV is not required for entry to NB schools for the first time

Inactivated Polio (IPV)				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
IPV-1	2 months	6 weeks	2 months	4 weeks
IPV-2	4 months	10 weeks	2 months	4 weeks
IPV-3	6 months	14 weeks	12 months	6 months
IPV-4	18 months	12 months	2.5 years	6 months
IPV-5 (7)	4 years	4 years	-----	-----

(7) IPV is a four dose schedule. The fifth dose is not required if the fourth dose is given on or after the fourth birthday. The 6 month dose is given for convenience with combined vaccine.

Influenza- inactivated (Inf) (8) (9) (10)				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
Inf-1	6 months and older (annually)	6 months	4 weeks (where applicable)	4 weeks (where applicable)
Inf-2	6 months – 8 years inclusively if no previous dose	-----	-----	-----

(8) Proof of immunization with Inf is not required for entry to NB schools for the first time.
(9) Proof of immunization with Inf is not required for attendance at day care
(10) All children ages 6 months through 8 years inclusively who receive a seasonal influenza vaccine for the first time should be given 2 doses. Refer to current NB Influenza program for additional details.

Measles, Mumps, Rubella (MMR)				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
MMR-1	12 months (11)	12 months	6 months	4 weeks
MMR-2	18 months	13 months	-----	-----

(11) Should be given after first birthday.

Measles, Mumps, Rubella and Varicella (MMRV)				
Refer to NACI if both MMRV and Var have been used				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
MMRV-1	12 months (12)	12 months	6 months	3 months (13)
MMRV-2	18 months	15 months	-----	-----

(12) Should be given after first birthday.
(13) Three months is the preferred minimal interval, however a 4 week interval between first and second dose may be used if a rapid complete protection is required.
Varicella Proof: A self-reported history and/or a health care provider diagnosis of varicella disease occurring before 2004 are considered a reliable correlate of immunity. If varicella disease occurred on or after 2004, neither a self-reported history nor health care provider diagnosis can be considered a reliable correlate of immunity; a laboratory confirmed diagnosis of varicella/herpes zoster is necessary for individuals experiencing varicella disease on or after 2004.

Meningococcal Conjugate (Men-C-C) (14)				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
Men –C -C	12 months	12 months	-----	-----

(14) In NB, the minimum age for this dose is 12 months. In other jurisdictions, the minimum age could be as early as 2 months. If meningococcal C conjugate vaccine is given to infants < 12 months of age, a booster dose needs to be given preferably in the second year of life (from 12-23 months of age). Refer to the latest edition of the Canadian Immunization Guide.

Meningococcal Conjugate (Men-C-ACYW-135) (15)				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
Men-C-ACYW-135	Grade 9	2 years	-----	-----
<ul style="list-style-type: none"> An adolescent dose is considered to be a vaccine administered at the minimum of 12 years of age. 				
<p>(15) Men-C-ACYW135 is not authorized for use in children less than 2 years of age; however NACI recommends its use as early as 2 months of age in high risk individuals. These schedule options are based on published clinical trials and the suggestion that a dose of meningococcal conjugate vaccine be given in the second year of life (12 to 23 months) for children vaccinated at less than 1 year of age.</p>				

Pneumococcal-Conjugate-valent (2+1 schedule with Pneu-C-13)				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
Pneu-C-13-1	2 months	6 weeks	2 months	8 weeks
Pneu-C-13-2	4 months	14 weeks	8 months	8 weeks
Pneu-C-13-3	12 months	12 months	-----	-----

Pneumococcal-Conjugate-valent (3+1 schedule with Pneu-C-7 or Pneu-C-13)				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
Pneu-C-7or 13-1	2 months	6 weeks	2 months	4 weeks
Pneu-C-7or 13-2	4 months	10 weeks	2 months	4 weeks
Pneu-C-7or 13-3	6 months	14 weeks	12 months	8 weeks
Pneu-C-7or 13-4	18 months	12 months	-----	-----

Post-Exposure Prophylaxis for Persons Potentially Exposed to Rabies						
	Vaccine					Rablg*
	Day 0	Day 3	Day 7	Day 14	Day 28	Day 0
Immunocompetent & unimmunized	✓	✓	✓	✓	NO	✓
Immunocompetent & appropriately immunized	✓	✓	NO	NO	NO	NO
Immunocompromised or are taking antimalarial drugs	✓	✓	✓	✓	✓	✓
<ul style="list-style-type: none"> Vaccination schedules for post-exposure prophylaxis should be adhered to as closely as possible; it is essential that all doses be received If a dose of rabies vaccine is given at less than the recommended interval, that dose should be ignored and the dose given at the appropriate interval from the previous dose If a dose of vaccine is delayed, it should be given as soon as possible and the schedule resumed, respecting the appropriate intervals from the latest dose There is flexibility in what time of day doses can be administered; However, spacing between doses 1 and 2 should be as close as reasonably possible to 72 hours. For example: if the 1st dose is administered on day 0 at 11:30pm; the 2nd dose can be administered at the end of the business/work day on day 3 or the morning of day 4. If there is doubt about a sufficient immune response, post-vaccination serology should be obtained 7 to 14 days after completing the vaccination series. 						
* Rablg can be provided up to and including day 7 after vaccine is initiated						

Rotavirus (RV)- Rotarix (Rot 1)					
Series Dose	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose	Maximum age for this dose
RV-1	2 months	6 weeks (6 weeks and 0 days)	2 months	4 weeks	Less than 15 weeks (14 weeks and 6 days)
RV-2	4 months	10 weeks	-----	-----	before 8 Months

Rotavirus (RV)- Rotateq (Rot 5)					
Series Dose	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose	Maximum age for this dose
RV-1	2 months	6 weeks	2 months	4 weeks	Before 15 weeks
RV-2	4 months	10 weeks	2 months	4 weeks	
RV-3	6 months	14 weeks	-----	-----	Before 8 months

Tdap-IPV, Tdap and/or Td for those 7 Years and older			
Number of valid doses of DTaP-IPV-Hib or DTaP-IPV received under 7 years of age	Individual's current age	Doses to complete series	Recommended interval to next dose
1 dose			2 months
	7 to 17 years	1) Tdap-IPV	2 months
		2) Tdap	6-12 months
		3) Tdap-IPV	
	18 years and older	1) Tdap	2 months
		2) Td	6-12 months
3) Td		10 years (Td)	
2 doses			6-12 months
	7 to 17 years	1) Tdap-IPV	6-12 months
		2) Tdap	
	18 years and older	1) Tdap	6-12 months
		2) Td	10 years (Td)
	3 doses		
7 to 17 years		Tdap-IPV*	
18 years and older		Tdap	10 years (Td)
4 doses received under 4 years of age	7 to 17 years	Tdap-IPV	
	18 years and older	Tdap	10 years (Td)

*An additional dose of IPV is not required if the 3rd dose of IPV was provided on or after age 4.

Tetanus, Diphtheria, and Acellular Pertussis (Tdap)				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
Tdap	Grade 7	Grade 7	-----	-----
<ul style="list-style-type: none"> An adolescent dose is considered to be a vaccine administered at the minimum of 12 years of age or within the grade 7 school immunization program. There is no evidence of increased risk of severe adverse events for adolescents after receiving diphtheria- and tetanus toxoid-containing vaccines at intervals of < 5 years, therefore the pertussis booster should not be delayed regardless of the elapsed time since the previous diphtheria- and tetanus toxoid-containing vaccine. 				

Varicella (Var)				
Refer to NACI if both MMRV and Var have been used				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
Var-1	12 months (16)	12 months	6 months	3 months (17)
Var-2	18 months	15 months	-----	-----
<p>(16) Should be given after first birthday. (17) Three months is the preferred minimal interval, however a 4 week interval between first and second dose may be used if a rapid complete protection is required.</p> <p>Varicella Proof: A self-reported history and/or a health care provider diagnosis of varicella disease occurring before 2004 are considered a reliable correlate of immunity. If varicella disease occurred on or after 2004, neither a self-reported history nor health care provider diagnosis can be considered a reliable correlate of immunity; a laboratory confirmed diagnosis of varicella/herpes zoster is necessary for individuals experiencing varicella disease on or after 2004.</p>				

Varicella (Var)				
Targeted/Catch-Up Immunization Campaign				
	Recommended age for this dose	Minimum age for this dose	Recommended interval to next dose	Minimum interval to next dose
Var-2	Grade 9 & 10 (18)	Grade 9	-----	-----
<p>(18) Students are eligible for 2nd dose of Varicella: students in grades 9 & 10 (2015/16); Students in grade 9 (2016/17 to 2022/23).</p> <p>Varicella Proof: A self-reported history and/or a health care provider diagnosis of varicella disease occurring before 2004 are considered a reliable correlate of immunity. If varicella disease occurred on or after 2004, neither a self-reported history nor health care provider diagnosis can be considered a reliable correlate of immunity; a laboratory confirmed diagnosis of varicella/herpes zoster is necessary for individuals experiencing varicella disease on or after 2004.</p>				

Notes:
 Vaccine doses administered up to four days before the minimum interval or age can be counted as valid.
 Ref: Epidemiology and Prevention of Vaccine-Preventable Diseases, Centers for Disease Control and Prevention ("The Pink Book")

References:

1. National Advisory Committee on Immunization. Canadian Immunization Guide, Evergreen edition. Public Health Agency of Canada; 2012.
2. The ACIP-VFC Vaccine Resolutions Centers for Disease Control and Prevention
3. Vaccine Manufacturers Product Monographs
4. Publicly-Funded Immunization Schedules for Ontario – January 2009
5. Epidemiology and Prevention of Vaccine-Preventable Diseases, Centers for Disease Control and Prevention ("The Pink Book")
6. American Academy of Pediatrics- Red Book 27th Edition