



Yukon Immunization Program Manual

Section 8 - Biological Products

Pneumococcal Vaccines





SECTION 8 – BIOLOGICAL PRODUCTS

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2019 August

Pneumococcal Conjugate Vaccine (Prevnar® 13)

Supplier: Pfizer Canada Inc.

INDICATIONS	INITIAL SERIES
<p>(1) Healthy infants and children 8 weeks to 59 months of age - to start or complete a pneumococcal conjugate vaccine series</p>	<p>(1) Healthy children:</p> <p>Dose 1: 8 weeks of age: 0.5 mL IM Dose 2: 16 weeks of age: 0.5 mL IM Dose 3: ≥ 12 months of age: 0.5 mL IM (at least 8 weeks after second dose).</p>
<p>(2) Children 8 weeks to 59 months of age who are at high risk of pneumococcal disease due to: ① ② ③</p> <ul style="list-style-type: none"> • Sickle cell disease and other hemoglobinopathies • Immunosuppression related to disease [e.g., malignant neoplasm (including leukemia and lymphoma); HIV; multiple myeloma] or therapy (e.g., high dose, systemic steroids or severe rheumatoid arthritis requiring immunosuppressive therapy) • 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 function. • Receipt of hematopoietic stem cell transplant (HSCT) • Solid organ or islet cell transplant (candidate or recipient) • Chronic heart or lung disease (except asthma, unless management involves ongoing high dose oral corticosteroid therapy) • Chronic liver disease including cirrhosis, chronic hepatitis B, chronic hepatitis C • Chronic kidney disease • Diabetes, cystic fibrosis or chronic CSF leak • Chronic neurological conditions that may impair clearance of oral secretions • Cochlear implant (candidate or recipient) • Anatomic or functional asplenia (children up to and including 18 years of age) ② 	<p>(2) Children medically at high risk:</p> <p>Dose 1: 8 weeks of age: 0.5 mL IM Dose 2: 16 weeks of age: 0.5 mL IM Dose 3: 24 weeks of age: 0.5 mL IM Dose 4: ≥ 12 months of age: 0.5 mL IM ① (at least 8 weeks after third dose)</p>
<p>(3) All children to 59 months of age and asplenic ≤ 18 years of age who have completed a PVC 7 or PCV 10 vaccine series ①</p>	<p>(3) One dose 0.5 mL IM at least 8 weeks after a previous PCV7 or PCV10 dose</p>
<p>(4) All individuals ≥60 months with HIV infection not been previously immunized with PCV 13 ⑤ ③</p>	<p>(4) One dose 0.5 ml IM ⑤</p>

2019 August	
Pneumococcal Conjugate Vaccine (Prevnar®13)	
Supplier: Pfizer Canada Inc.	
INDICATIONS	INITIAL SERIES
<p>(5) RECOMMENDED BY THE NATIONAL ADVISORY COMMITTEE ON IMMUNIZATION: Recommended based on authorization from Specialist and/or CMOH:</p> <ul style="list-style-type: none"> • Children up to 18 years of age (inclusive) with asthma which required medical attention in the past 12 months. <p>Recommended based on authorization from Specialist and/or CMOH:</p> <ul style="list-style-type: none"> • Adults with: <ul style="list-style-type: none"> • Asplenia (anatomical or functional) • Sickle cell disease or other hemoglobinopathies • 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 • Immunosuppressive therapy including use of long term corticosteroids, chemotherapy, radiation therapy, post-organ-transplant therapy, biologic and non-biologic immunosuppressive therapies for rheumatologic and other inflammatory diseases. • Malignant neoplasms including leukemia and lymphoma • Solid organ or islet cell transplant (candidate or recipient) 	<p>(5) One dose 0.5 mL IM</p> <p>(5) One dose 0.5 mL IM</p>
CONTRAINDICATIONS	History of an anaphylactic reaction to a previous dose of any pneumococcal vaccine, or to any component of Prevnar®13.
PRECAUTIONS	If PPV23 has already been administered, PCV13 should be administered at least one year later.
VACCINE COMPONENTS	Potential allergens: diphtheria CRM197 toxoid protein, polysorbate 80. Other components: succinic acid, aluminum phosphate
ADVERSE EVENTS	Local: Redness, swelling, tenderness at injection site; Systemic: fever (and rarely, febrile seizures in young children) headache, irritability, drowsiness, restless sleep, decreased appetite, vomiting, diarrhea, muscle and joint pain, rash.

2019 August				
Completing a Pneumococcal Conjugate Vaccine Series				
Age at presentation for immunization	History of prior doses of PCV7, PCV10 or PCV13 given	Completion of series requires		AND Booster dose Healthy and High Risk ②
		Healthy Infant	High Risk Infant ① ②	
12 weeks to 44 weeks ⑦	0 doses	2 doses ③	3 doses ③	One dose at ≥12 months of age ④
	1 dose	1 dose ③	2 doses ③	One dose at ≥12 months of age ④
	2 doses	0 doses	1 dose ④	One dose at ≥12 months of age ④
12 to 23 months	0 doses	2 doses ⑤	2 doses ⑤	No booster dose
	1 dose < 12 months	2 doses ⑤	2 doses ⑤	
	1 dose ≥ 12 months	1 dose ⑤	1 dose ⑤	
	2 doses < 12 mos.	1 dose ④	2 doses ⑤	
	1 dose < 12 mos. & 1 dose ≥ 12 mos	1 dose ⑤	1 doses ⑤	
24 to 59 months	0 doses	1 dose	1 dose	
	Any age- appropriate series incomplete by 24 months ⑥	1 dose ⑤	1 dose ⑤	
	Complete PCV7 or PCV10 series ⑥	1 doses ⑤	1 dose ⑤	
<p>① When an infant has received one or two doses of vaccine, and is subsequently diagnosed with a high risk medical condition, use the table to complete the immunizations as “high risk.” When a high risk condition is diagnosed after an infant has completed the 3 dose schedule for healthy children, further immunization will be determined on a case-by-case basis.</p> <p>② High risk children should receive one dose of pneumococcal polysaccharide vaccine at 2 years of age, and at least 8 weeks after their final pneumococcal conjugate vaccine dose.</p> <p>③ When there is a delay in initiating or completing the vaccine series, use the minimum interval of 4 weeks between vaccine doses given in infancy. See Section 3 Immunization Schedules, 3.0 Minimum Intervals between Vaccine Doses.</p> <p>④ At least 8 weeks after the previous dose.</p> <p>⑤ 8 weeks between doses.</p> <p>⑥ A complete series is:</p> <ul style="list-style-type: none"> Two (PCV7) or three (PCV7 [high risk] or PCV10) primary doses given at appropriate intervals and a 3rd or 4th dose given on or after 12 months of age and at least 8 weeks after previous dose, or A delayed or interrupted schedule that has been completed at a later age according to the information in this table. <p>⑦ If an infant has a history of receiving their last dose before 12 months of age, give an additional dose at ≥ 12 months of age with a minimum interval of 8 weeks from last dose.</p>				

2019 August		
Recommendations for Pneumococcal Immunization with 13-Valent Pneumococcal Conjugate Vaccine (PCV 13) and 23-Valent Pneumococcal Polysaccharide Vaccine (PPV 23) for Children at High Risk of Pneumococcal Disease (except those with HIV infection).		
Age at presentation:	Previous doses PCV 13	Recommendations: ❶❷
≤ 23 months	None	PCV 13 as per primary high risk series schedule
24 to 59 months	None	2 doses of PCV 13, followed by one dose of PPV 23, 8 weeks after the dose of PCV 13. ❸ Once-only revaccination with PPV 23, 5 years after the first dose of PPV 23 ❺❻
	≤ 2 doses PCV13 before 24 months	2 doses of PCV 13, followed by one dose of PPV 23, 8 weeks after the dose of PCV 13. Once-only revaccination with PPV 23, 5 years after the first dose of PPV 23 ❺❻
	before 24 months	One dose of PPV 23 at 24 months of age, ❹ Once-only revaccination with PPV 23, 5 years after the first dose of PPV 23 ❺❻
	One dose of PPV 23	Two doses of PCV 13, 8 weeks apart, and 1 year after the administration of PPV 23. Once-only revaccination with PPV 23, 5 years after the first dose of PPV 23 ❺❻
<p>❶ For list of children at high-risk for pneumococcal disease, see Pneumococcal Conjugate Vaccine (Prevnar®13)</p> <p>❷ PPV 23 is provided free for high risk children.</p> <p>❸ Children who have completed a PCV13 vaccine series before they are 2 years of age, and who are among the high risk groups for pneumococcal disease, should receive one dose of pneumococcal polysaccharide vaccine at 2 years of age, no sooner than 8 weeks after the last dose of PCV 13.</p> <p>❹ If high risk children ≥ 2 years of age received pneumococcal polysaccharide vaccine first, offer pneumococcal conjugate vaccine at least 1 year after the polysaccharide vaccine.</p> <p>❺ For list of high-risk conditions for which revaccination with PPV23 is recommended, see Pneumococcal Polysaccharide Vaccine (Pneumovax® 23).</p> <p>❻ A complete series is:</p> <ul style="list-style-type: none"> • two PVC13 [healthy] or three PCV13 [high risk]) primary doses given at appropriate intervals and a 3rd (healthy) or 4th (high risk) dose given on or after 12 months of age and at least 8 weeks after previous dose, or • a delayed or interrupted schedule that has been completed at a later age 		

2019 August		
Recommendations for Pneumococcal Immunization With 13-Valent Pneumococcal Conjugate Vaccine (PCV 13) and 23-Valent Pneumococcal Polysaccharide Vaccine (PPV 23) for HIV infected individuals.		
Age at presentation:	Previous doses PCV 13 &/or PPV23	Recommendations: ❶
≥ 60 months up to 120 months (5-10 years)	0 doses of PPV23 0 doses of PCV13	1 dose PCV13 followed by 1 dose PPV23 8 weeks later Once only revaccination with PPV23, 5 years after the first dose of PPV23
	1 dose of PPV23 0 doses of PCV13	1 dose of PCV13 one year post previous dose of PPV23 Once only revaccination with PPV23, 5 years after the first dose of PPV23
	2 doses PPV23 0 doses of PCV13	1 dose PCV13 at least 1 year post last dose of PPV23
	PCV13 series completed 0 doses of PPV23	One dose of PPV 23 at 24 months of age Once-only revaccination with PPV 23, 5 years after the first dose of PPV 23 ❷
All individuals >10 years of age	0 doses of PPV23 0 doses of PCV13	1 dose of PCV13 followed by 1 dose PPV23 8 weeks later Once only revaccination of PPV23, 5 years after the first dose of PPV23
	1 dose of PPV23 0 doses of PCV13	1 dose of PCV13 at least one year post last dose of PPV23 Once only revaccination of PPV23, 5 years after the first dose of PPV23 and at least 8 weeks post PCV13
	2 doses PPV23 0 doses of PCV13	1 dose PCV13 at least 1 year post last dose of PPV23
<p>❶ PPV 23 & PCV13 is provided free for HIV infected individuals.</p> <p>❷ A complete series is:</p> <ul style="list-style-type: none"> • two PVC13 [healthy] or three PCV13 [high risk] primary doses given at appropriate intervals and a 3rd (healthy) or 4th (high risk) dose given on or after 12 months of age and at least 8 weeks after previous dose, or • a delayed or interrupted schedule that has been completed at a later age 		

2021 January	
Pneumococcal Polysaccharide Vaccine (Pneumovax® 23)	
Supplier: Merck Canada Inc.	
INDICATIONS	INITIAL SERIES
<p>Recommended and provided free to:</p> <ul style="list-style-type: none"> • All persons ≥ 65 years of age • All residents of Extended or Intermediate Care Facilities 	<p>1 dose: 0.5 ml SC or IM</p>
<p>Recommended and provided free to:</p> <ul style="list-style-type: none"> • All persons ≥ 2 years of age with: <ul style="list-style-type: none"> ○ Diabetes ○ Alcoholism ○ Cystic fibrosis ○ Chronic CSF leak ○ Chronic liver disease including cirrhosis, chronic Hepatitis B, Hepatitis C ○ Chronic heart or lung disease ③ ○ Cochlear implant (candidate or recipient) ○ Homelessness ④ and/or illicit drug use ⑤ ○ Cigarette smokers 	<p>2 doses ⑦ ⑩ ⑪: 0.5mL SC or IM + booster of 0.5mL, to ensure they receive at least one dose after age 65.</p>
<p>Recommended and provided free to:</p> <ul style="list-style-type: none"> • All persons ≥ 2 years of age with: <ul style="list-style-type: none"> ○ Anatomic or functional asplenia ① ○ Sickle cell disease ○ Immunosuppression related to disease (e.g., malignant neoplasm (including leukemia and lymphoma); HIV ⑨; multiple myeloma) ② or therapy (e.g., high dose, systemic steroids or severe rheumatoid arthritis requiring immunosuppressive therapy) ○ Congenital immunodeficiency states (e.g., complement, properdin or factor D deficiency) ○ Chronic kidney disease ○ Receipt of hematopoietic stem cell transplant (HSCT) ⑥ ○ Solid organ or islet cell transplant (candidate or recipient) 	<p>2 doses ⑦ ⑩ ⑪ ⑫: 0.5mL SC or IM + booster of 0.5mL 5 years later.</p> <p>A 3rd dose may be administered after age 65 to these clients, if 2nd dose was given prior to this age.</p>

2021 January

Pneumococcal Polysaccharide Vaccine (Pneumovax® 23)

Supplier: Merck Canada Inc.

REINFORCEMENTS	<ul style="list-style-type: none"> Booster doses should be administered as above, with all doses 5 years apart. Client may receive 1, 2, or 3 doses. See bullets below.
CONTRAINDICATIONS	History of an anaphylactic reaction to a previous dose of a pneumococcal vaccine or to any component of Pneumovax® 23 vaccine
VACCINE COMPONENTS	<p>Potential allergens: none.</p> <p>Other components: phenol.</p>
PRECAUTIONS ③	<ul style="list-style-type: none"> Adverse reaction may intensify if revaccination occurs within 2 years Pneumococcal vaccination should be administered at least two weeks prior to the initiation of immunosuppressive therapy.
ADVERSE EVENTS	<p>Local: Soreness and erythema; rarely severe arthus reaction (rarely)</p> <p>Systemic: Fever</p>

- ① Give vaccine at least 14 days before splenectomy, or, if not possible 14 days post-splenectomy. If there is concern that the patient may not present later for immunization, give at hospital discharge.
- ② Give vaccine before initiation of immunosuppression therapy, and early in the course of HIV infection. See Recommendations for PCV13 and PPV23 for individuals with HIV infection p.49 for intervals between PCV13 and PPV23 immunizations. Contact YCDC for most recent CD4 counts prior to immunization.
- ③ Except hypertension and asthma, unless management involves ongoing high dose oral corticosteroids
- ④ Homelessness to be defined by local jurisdiction.
- ⑤ Crack cocaine smokers have been shown to be at increased risk of invasive pneumococcal disease.
- ⑥ HSCT recipients ≥ 2 years of age: must follow re-immunization schedule specific to province in which treatment was given, and contact Immunization Program Manager.
- ⑦ Children who are among the high risk groups for pneumococcal disease and who have completed the PCV vaccine series before they are 2 years of age, should receive one dose of pneumococcal polysaccharide vaccine at 2 years of age, no sooner than 8 weeks after the last dose of PCV. If high risk children ≥ 2 years of age received pneumococcal polysaccharide vaccine first, offer pneumococcal conjugate vaccine at least 1 year after the polysaccharide vaccine.
- ⑧ PNEUMOVAX® 23 can be given simultaneously with varicella zoster vaccine, influenza, Hib, and meningococcal vaccines, using separate syringes/needles at separate sites.
- ⑨ See [pg 49 for PCV13 & PPV23 for more detail on vaccine series for HIV infected children and adults](#).
- ⑩ If both pneumococcal conjugate vaccine (PCV) and PPV23 are recommended, the age appropriate PCV series should be administered first, followed at least 8 weeks later by PPV23. If PPV23 has already been administered, PCV should be administered at least one year later.
- ⑪ These clients should receive one dose before age 65 and one dose after age 65. All doses must be administered 5 years apart.
- ⑫ Specific clients, as listed above, may receive a 3rd dose if indicated. If under age 60 at time of first dose, they should receive their first dose, 2nd dose 5 years later, 3rd dose after age 65 AND at least 5 years later. If second dose is after age 65, a 3rd dose will not be needed.