

Immunization with 15-valent Pneumococcal Conjugate (Pneu-C-15) and 20-valent Pneumococcal Conjugate (Pneu-C-20) Vaccines

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Description of Pneumococcal Conjugate Vaccines

Each dose of Pneu-C-15 contains 15 pneumococcal serotypes.

Each dose of Pneu-C-20 contains 20 pneumococcal serotypes.

Additional information:

- Search product monograph on [Drug Product Database online query \(canada.ca\)](http://drugproductdatabaseonlinequery.canada.ca)
- See Canadian Immunization Guide [Content of Immunizing Agents Available for Use in Canada](#) for product content information.

Pneumococcal Vaccine Administration

Dose: 0.5 ml

Route: Intramuscular (IM)

Site: Vastus lateralis in infants less than 12 months of age.
Deltoid muscle is the preferred injection site for individuals 12 months of age and older.

Concurrent Administration:

Pneu-C-15 and Pneu-C-20 vaccines can be given concurrently with other vaccines.

Storage and Handling: Refer to [Storage and Handling of Immunizing Agents](#) for recommendations for pneumococcal vaccines

Pneumococcal Conjugate Vaccine Policy for Children and Adolescents less than 18 years of age

The provincial immunization program provides pneumococcal conjugate vaccine to infants and children based on age and risk factors.

1. Newborns should receive **Pneu-C-15** a **three-dose schedule** at 2, 4, and 12 months of age.
2. The number of doses required to complete a pneumococcal conjugate vaccination series depends on the number of previously received pneumococcal conjugate doses.

Table 1. Recommended schedules for Pneu-C-15 for children 2 months to 17 years of age without IPD risk factors by pneumococcal conjugate vaccine history

Age at presentation for immunization	Number of previously received pneumococcal conjugate vaccine	Recommended schedule for Pneu-C-15*
2 to 6 months	0 doses	3 doses (2 doses given before 12 months of age and 1 dose after 12 months of age)
	1 dose	1 dose before 12 months of age and 1 dose after 12 months of age
	2 doses	1 dose after 12 months of age
7 to 11 months	0 doses	3 doses (2 doses given before 12 months of age and 1 dose after 12 months of age).
	1 dose	2 doses (1 dose given before 12 months of age and 1 dose after 12 months of age).
	2 doses	1 dose given after 12 months of age.
12 to 23 months	0 doses	2 doses
	1 dose at less than 12 months of age	
	2 or more doses given less than 12 months of age	1 dose
	0 or 1 dose given less than 12 months of age AND 1 dose given 12 months of age or older	
24 to 59 months	0 doses or incomplete vaccination schedule	1 dose
5 years to 17 years	0 doses	0 doses

*Minimum interval between doses: eight weeks

Screening Guidelines for Children and Adolescents less than 18 years of age

See [section 1.5](#) of the Provincial Immunization manual for additional screening information.

Screening Questions

- Has the individual had an anaphylactic reaction to a previous dose of the vaccine?
Yes: Determine the nature and severity of the reaction. Pneumococcal vaccines are contraindicated in persons with a history of anaphylaxis after previous administration of the vaccine and in persons with proven immediate or anaphylactic hypersensitivity to any component of the vaccine. If required defer immunization and complete an AEFI report for MOH/designate consult
- Is the individual allergic to any component of the vaccine, as listed in the product monograph?
Yes: Defer immunization and consult with the MOH/designate as needed. It may be necessary to immunize in a controlled setting.
- Does the child have a moderate to severe illness, with or without a fever?
Yes: Defer immunization with vaccine until child is well.
- Are Pneu-C-13 and Pneu-C-15 vaccine products considered interchangeable?
Pneu-C-15 is replacing Pneu-C-13. Pneu-C-15 protects against more pneumococcal serotypes than Pneu-C-13. If a child not considered to be at high risk starts a series with Pneu-C-13, the series can be completed with Pneu-C-15 following the same interval.
- A child started their series with Pneu-C-13, has recently received Pneu-C-15 and now meets criteria to be considered at high-risk for IPD. What should the child receive?
A child that is considered at high-risk for IPD should receive Pneu-C-20. See the table 2 noted in the policy below for recommended doses.
- An immunocompetent child has previously received a completed pneumococcal vaccine series with pneumococcal conjugate-10 or pneumococcal conjugate-7 vaccine. Should they receive a booster dose of pneumococcal vaccine?
Yes: A child should be offered one dose of PCV-15 vaccine for adequate protection against pneumococcal disease.
- An immunocompetent child has previously received a completed pneumococcal vaccine series with pneumococcal conjugate-13 vaccine. Should they receive a booster dose of pneumococcal vaccine?
No: A child with a completed series with PCV-13 vaccine is considered adequately protected against pneumococcal disease.

Not Contraindications

- Mild illness
- Child is on an antibiotic
- Coagulation disorder (use appropriate gauge needle and apply firm pressure for at least two minutes post administration of immunization)

Contraindications

- Anaphylaxis to a previous dose of pneumococcal conjugate vaccine or to any of the components of the vaccine
- Acute moderate to severe illness with or without a fever

Pneumococcal Conjugate Vaccine Policy for Adults without medical or environmental invasive pneumococcal risk factors

The Department of Health and Community Services recommends and offers publicly funded pneumococcal vaccine to adult populations (18 years of age and older) as follows: for.

- **All adults 65 years of age and older:**
 - One dose of Pneu-C-20 should be offered to adults 65 years of age and older, regardless of their previous pneumococcal vaccination status.
 - Pneu-C-20 should be provided with an interval of at least one year from their last dose of Pneu-P-23, or eight weeks from their last dose of pneumococcal conjugate vaccine. A longer interval of five years between Pneu-20 and Pneu-P-23 may maximize duration of protection.
- Adults 18 years of age and older with conditions resulting in high risk factors for IPD. Please see [Table 2 vaccine eligibility for adults aged 18 years and older](#).

Screening Guidelines for Adults

See [section 1.5](#) of the Provincial Immunization manual for additional screening information.

Screening Questions:

- Has the individual had an anaphylactic reaction to a previous dose of the vaccine?
Yes: Determine the nature and severity of the reaction. Pneumococcal vaccines are contraindicated in persons with a history of anaphylaxis after previous administration of the vaccine and in persons with proven immediate or anaphylactic hypersensitivity to any component of the vaccine. If required defer immunization and complete an AEFI for MOH/designate consult.
- Is the individual allergic to any component of the vaccine, as listed in the product monograph?
Yes: Defer immunization and consult with the MOH/designate as needed. It may be necessary to immunize in a controlled setting.
- Does the individual have a moderate to severe illness, with or without a fever?
Yes: Defer immunization with vaccine until the client is well.

Contraindications:

- Anaphylaxis to a previous dose of pneumococcal conjugate or polysaccharide vaccine or to any of the components of the vaccine

Not Contraindications:

- Mild Illness
- On an antibiotic
- Coagulation disorder (use appropriate gauge needle and apply firm pressure for at least two minutes post administration of immunization)

Vaccination of Special Populations

Children 2 months of age or older and adults with the following chronic medical conditions or environmental risk factors for IPD identified in Table 2 are eligible for **Pneu-C-20** vaccine.

Table 2. Conditions resulting in increased risk of IPD

Medical Risk Factors	Environmental Risk Factors
<ul style="list-style-type: none"> • 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 • Immunocompromising therapy, including use of long-term corticosteroids, chemotherapy, radiation therapy, and post-organ transplant therapy • HIV infection • Hematopoietic stem cell transplant (recipient) • Malignant neoplasms, including leukemia and lymphoma • Solid organ or islet transplant (recipient) • Chronic kidney disease, particularly those with nephrotic syndrome, on dialysis or with renal transplant¹ • Chronic liver disease, including biliary atresia and hepatic cirrhosis due to any cause² • Functional or anatomic asplenia, including sickle cell disease and other hemoglobinopathies, congenital or acquired asplenia, or splenic dysfunction • Chronic cerebrospinal fluid leak • Cochlear implants, including those who are to receive implants³ • Chronic neurologic conditions that may impair clearance of oral secretions • Chronic heart disease, including congenital heart disease and cyanotic heart disease • Diabetes mellitus • Chronic lung disease, including asthma requiring medical care in the preceding 12 months 	<ul style="list-style-type: none"> • Who are underhoused or experiencing homelessness • Who live in communities or settings experiencing sustained high IPD rates including Indigenous peoples • Smoking for 150 pack-years⁴ • With substance use disorders (i.e., cocaine use and injection drug use) • With alcohol use disorder • Who are in residential care, including long-term care homes and residential care homes for children with complex medical needs
<p>¹ Individuals with nephrotic syndrome, end-stage renal disease, rapid progression towards dialysis or on dialysis are at highest risk and should be prioritized for vaccination</p> <p>² Individuals with end-stage liver disease and hepatic cirrhosis are likely at highest risk and should be prioritized for vaccination</p> <p>³ The highest risk is in the weeks following the surgery. While it is best to administer the vaccine prior to implant, surgery should not be delayed. The vaccine should be given as soon as possible.</p> <p>⁴ Pack-years is the number of packs of cigarettes smoked per day by the number of years the person smoked. E.g. 2 pack-years is equal to smoking 1 pack per day for 2 years or 2 packs per day for 1 year.</p>	

Children with medical or environmental invasive pneumococcal disease (IPD) risk factors

1. Infants and children at [high risk for invasive pneumococcal disease \(IPD\)](#) should receive **Pneu-C-20** at a **four-dose schedule** at 2, 4, 6 and 12-15 months of age.

The minimal interval between doses of conjugate pneumococcal vaccines (Pneu-C-13, Pneu-C-15, and Pneu-C-20) is eight weeks.

The minimum interval between 23-valent pneumococcal polysaccharide vaccine (Pneu-P-23) and Pneu-C-20 is one year.

2. The number of doses required to complete a pneumococcal conjugate vaccination series depends on the number of previously received pneumococcal conjugate doses.

Table 3. Recommended schedules for Pneu-C-20 for children 2 months to 17 years of age with IPD risk factors by pneumococcal conjugate vaccine history

Age at presentation for immunization	Number of previously received pneumococcal conjugate vaccine	Recommended schedule for Pneu-C-20*
2 to 6 months	0 doses	4 doses (3 doses given before 12 months of age and 1 dose at 12-15 months of age).
	1 dose	3 doses (2 doses given before 12 months of age and 1 dose at 12-15 months of age).
	2 doses	2 doses (1 dose given before 12 months of age and 1 dose at 12-15 months of age).
7 to 11 months	0 doses	3 doses (2 doses given before 12 months of age and 1 dose at 12-15 months of age).
	1 dose	2 doses (1 dose given before 12 months of age and 1 dose after 12 months of age).
	2 doses	1 dose at 12-15 months of age.
12 to 23 months	0 doses	2 doses
	1 dose at less than 12 months of age	
	2 or more doses given less than 12 months of age	1 dose
	0 or one dose given less than 12 months of age AND one dose given 12 months of age or older	
24 to 59 months	0 doses of Pneu-C-20	1 dose
5 to 17 years	0 doses of Pneu-C-20	1 dose

*Minimum interval between doses: eight weeks

Adults with medical or environmental invasive pneumococcal disease (IPD) risk factors

1. One dose of Pneu-C-20 is recommended for individuals 18 years of age and older living with chronic medical conditions and /or environmental risk factors ([Table 2](#)) that place them at a higher risk for IPD, regardless of their Pneu-C-13 or Pneu-P-23 vaccination status.
 - If an individual has received a previous pneumococcal vaccine and is eligible to receive Pneu-C-20 vaccine, it should be provided at least one year from their last dose of Pneu-P-23 or eight weeks from the last dose of pneumococcal conjugate vaccine. However, in scenarios where rapid completion of vaccine series in vulnerable populations is required, the minimum interval between Pneu-C-20 and Pneu-C-13 or Pneu-C-15 is 8 weeks.
 - A longer interval of five years between Pneu-20 and Pneu-P-23 may maximize duration of protection.
 - Adults 18 years of age and older who meet eligibility criteria for Pneu-C-20 ([Table 2](#)) should only receive one dose of Pneu-C-20. An exception is individuals who are [Hematopoietic Stem Cell Transplant recipients](#) who require re-immunization.
 - Repeated immunization with the same-valency conjugate vaccine after completion of an age-appropriate schedule is not currently recommended because it is unknown whether additional doses confer added benefit.

Pregnancy and breastfeeding

If indicated, individuals who are pregnant or breastfeeding can be vaccinated with any of the pneumococcal vaccines as there is no evidence to suggest risk to the infant, fetus or the pregnancy.

For more information, refer to the [Canadian Immunization Guide: Immunization in pregnancy and breastfeeding](#).

Infants born prematurely

Prematurity is associated with chronic lung disease and can increase the risk of IPD. Premature infants in stable clinical condition should be immunized with Pneu-C-15 or Pneu-C-20 **at the same chronological age and the same schedule as full-term infants**.

The first dose should be given at 2 months chronological age even if the infant is hospitalized. [Children with chronic lung disease are at high risk IPD and should be immunized with a 4-dose Pneu-C-20 vaccine schedule](#).

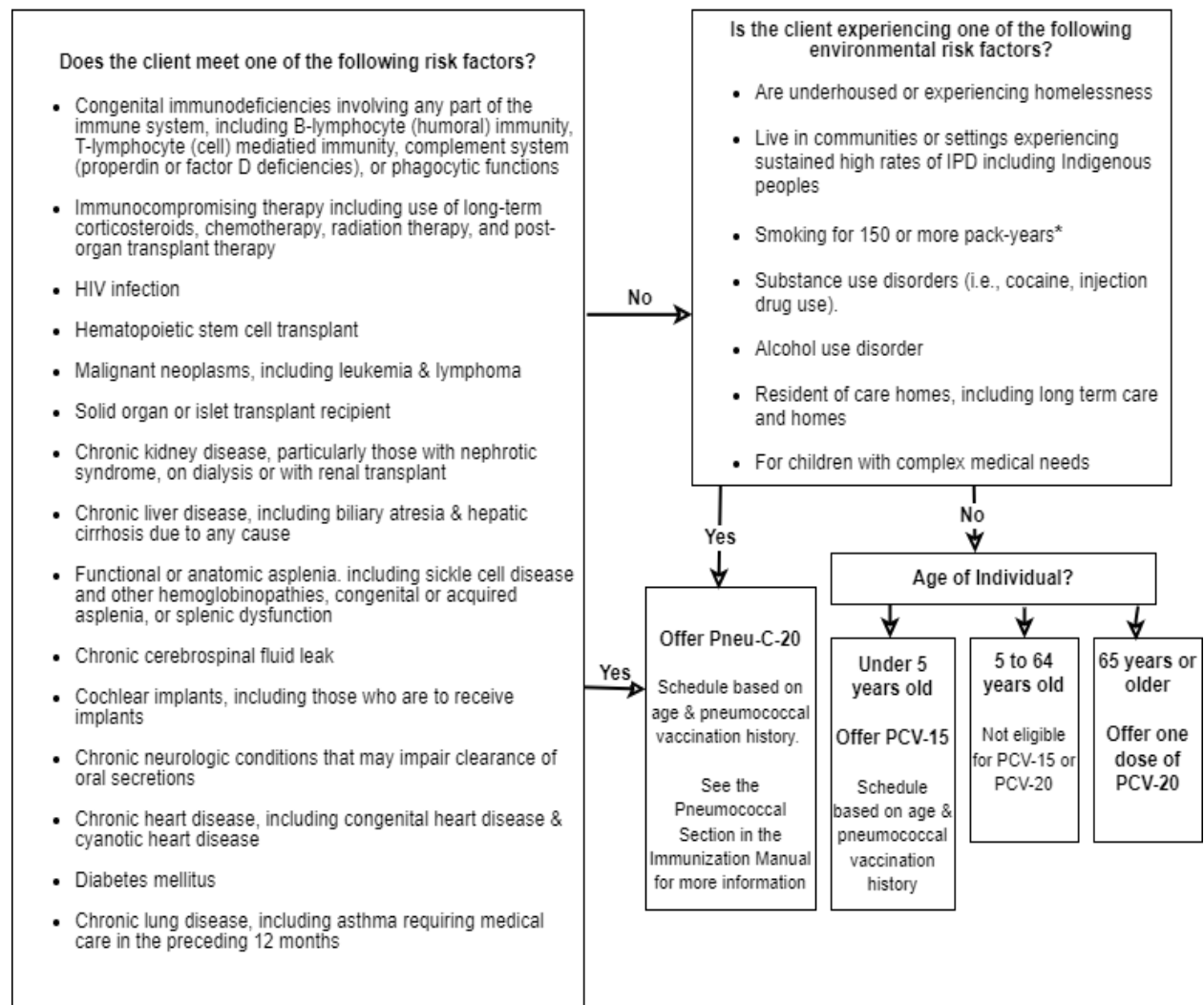
Hematopoietic stem cell transplantation

Individuals who have received a hematopoietic stem cell transplant (HSCT), should be immunized with Pneu-C-20 following completion of the transplant and upon agreement with their transplant specialist.

Individuals can begin a four-dose schedule three to nine months after HSCT with three doses given at least four weeks apart, followed by one dose six to 12 months after the last dose of Pneu-C-20 (12 to 18 months post-HSCT). HSCT recipients who completed their post-transplant recommended schedule with Pneu-C-13 or Pneu-C-15, should receive one dose of Pneu-C-20 at a minimum interval of 8 weeks from the last pneumococcal conjugate vaccine or at least 1 year from the last Pneu-P-23.

Screening for Pneumococcal Conjugate Vaccine Eligibility

Based on the Canadian Immunization Guide and the Provincial Immunization Manual policy, individuals should be screened for medical and environmental risk factors for invasive pneumococcal disease (IPD) to determine eligibility for the pneumococcal conjugate vaccine. The following algorithm should be used as a guide to determine an individual's eligibility for Pneu-C-15 or Pneu-C-20 vaccine. For more information on screening and schedules, visit the provincial immunization manual policy for immunization with pneumococcal conjugate vaccine.



Footnote: * Pack-years is the number of packs of cigarettes smoked per day by the number of years the person smoked. E.g. 2 pack-years is equal to smoking 1 pack per day for 2 years or 2 packs per day for 1 year.