

Invasive Pneumococcal Disease (IPD)

What is Invasive Pneumococcal Disease (IPD)?

Pneumococcal disease is caused by the *Streptococcus pneumoniae* bacteria and is often referred to as pneumococcus. It can cause many types of illnesses including infections of the ears and sinuses. It is spread from person-to-person by direct contact with respiratory secretions, like saliva or mucus.

Pneumococcus can also cause invasive pneumococcal disease (IPD), a common cause of pneumonia. IPD is a severe infection that occurs when the bacteria enter normally sterile sites, like the bloodstream (bacteremia) or the central nervous system (meningitis). About 25-30% of people with pneumococcal pneumonia also have bacteremia. These persons are often hospitalized and usually recover with antibiotic treatment. Occasionally, this infection can cause long-term complications or death.

What are the risk factors for IPD?

- 65 years of age or older and less than two years of age
- No spleen or a spleen that does not work properly
- Chronic heart, lung, kidney or liver disease (including hepatitis B and C)
- Asthma (if medical attention was needed in the past 12 months)
- Diabetes
- Cancer, including solid tumors and blood cancer like leukemia and lymphoma
- Disease or medications that suppress the immune system
- Chronic cerebrospinal fluid leak
- Cochlear implants
- Sickle cell disease or other genetic

disorders of the hemoglobin

- Chronic neurologic conditions that impair the ability to clear oral secretions
- Residents of long-term care facilities, regardless of age
- Alcohol use disorder
- Smoking
- Substance use disorders (e.g., cocaine use, IV drug use)
- Underhoused or experiencing homelessness

How common is IPD in Waterloo Region?

- Only invasive pneumococcal disease is reported to the Region of Waterloo Public Health and Emergency Services. IPD is one of the most common reportable infectious diseases, with about 60 cases reported each year. Many more cases of pneumonia caused by pneumococcus are diagnosed based on clinical symptoms and chest x-rays and are not reportable to public health.

How can I prevent IPD?

- The best prevention is pneumococcal vaccination, especially if you have a high-risk medical condition. Getting vaccinated against influenza each year is also recommended, as bacterial pneumonia is a common complication of influenza.
- Other prevention strategies include practicing good hand hygiene, eating a nutritious diet, maintaining a healthy weight, and avoiding excessive alcohol use, illicit drug use, and smoking.



What vaccines are recommended as per the Canadian Immunization Guide?

Pneumococcal Conjugate (Pneu-C-15) [Vaxneuvance™]

- Routine immunization for low-risk infants at 2, 4 and 12 months, since July 2024
- Catch-up immunization for low-risk children aged 6 weeks to 4 years who have not started or have not received all eligible publicly funded pneumococcal vaccine(s)
- Children without medical or environmental risk factors who have completed a full series with Pneu-C-13 do not need an additional dose of Pneu-C-15 or Pneu-C-20

Pneumococcal Conjugate (Pneu-C-20) [Prevnar 20™]

- High-risk individuals aged 6 weeks and older, since July 2024
- All adults 65 years and older, since July 2024
- All children at increased risk of IPD with previously completed Pneu-C-13 or Pneu-C-15 schedule, should receive 1 dose of Pneu-C-20
- All adults at increased risk of IPD and those aged 65 years and older, with previously completed Pneu-C-13 and/or Pneu-P-23, should receive 1 dose of Pneu-C-20

Who is eligible for publicly funded vaccine in Ontario at this time and when?

Table 1: Routine Eligibility

Eligibility	Vaccine	Number of doses	Schedule
6 weeks to 4 years of age who are not at increased risk for IPD	Pneu-C-15	Up to 3 doses	2, 4 and 12 months of age
65 years of age and older	Pneu-C-20	1 lifetime dose	N/A

Table 2: High Risk Eligibility

Eligibility	Vaccine	Number of doses	Schedule
6 weeks to 4 years of age who are at increased risk for IPD	Pneu-C-20	Up to 4 doses	2, 4, 6 and 12 months of age
5 to 64 years of age with certain medical and non-medical conditions that increase their risk for IPD	Pneu-C-20	1 lifetime dose	N/A

Catch-up immunizations are available for those who missed their scheduled doses. Individuals who have previously received all eligible publicly funded doses of pneumococcal vaccines, based on their age and risk, are not eligible for additional publicly funded doses of pneumococcal vaccines at this time. (Refer to Health Care Provider (HCP) section, Region of Waterloo Public Health website or Ministry websites for details)

Who are the high-risk groups eligible for publicly funded Pneu-C-20 (Prevnar 20™) vaccine in Ontario?

Pneumococcal Conjugate (Pneu-C-20) [Prevnar 20™] ≥ 6 weeks of age Children and Adults

1. Asplenia (functional or anatomic), splenic dysfunction
2. Cardiac disease (chronic)
3. Cerebral spinal fluid leak (chronic)
4. Cochlear implant recipients (pre/post implant)
5. Congenital (primary) 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
6. Diabetes mellitus
7. HIV
8. Immunocompromising therapy including use of long-term systemic corticosteroid, chemotherapy, radiation therapy, post-organ transplant therapy, certain anti-rheumatic drugs and other immunosuppressive therapy
9. Liver disease (chronic), including hepatitis B and C, and hepatic cirrhosis due to any cause
10. Malignant neoplasms, including leukemia and lymphoma
11. Renal disease (chronic), including nephrotic syndrome

12. Respiratory disease (chronic), excluding asthma, except those treated with high-dose corticosteroid therapy.
*Canadian Immunization guidelines recommend the vaccine for persons with asthma that required medical attention in the past 12 months, regardless of high dose steroid use (not funded in Ontario but available by prescription).
13. Sickle-cell disease and other sickle cell haemoglobinopathies
14. Solid organ or islet cell transplant (candidate or recipient)
15. Neurologic conditions (chronic) that may impair clearance of oral secretions
16. HSCT (candidate or recipient) – 3 doses, refer to Publicly Funded Immunization Schedule for Ontario
17. Residents of nursing homes, homes for the aged and chronic care facilities or wards

Note: Locally, the following persons are also eligible for one dose; refer to Ministry catch up schedules for high-risk criteria groups 1-9 schedules for those who have been previously immunized

- All persons who are underhoused or experiencing homelessness
- All individuals with substance use disorder (e.g., cocaine use, IV drug use)

What if I have a high-risk condition and the vaccine is recommended but I am not eligible for publicly funded vaccine?

- Vaccination is recommended in the Canadian guidelines for some high-risk persons, but not publicly funded in Ontario.
- For example, additional (catch-up) doses of Pneu-C-20 for those who have received all eligible publicly funded pneumococcal immunizations are not currently funded but will be considered for future programming.
- For those who are not eligible but would like to get the vaccine, it can be purchased from pharmacies by prescription from your health care provider. Some third-party benefit plans may cover the cost.

What if I have already received a previous version of the IPD vaccine?

If Pneu-C-13 or Pneu-C-15 has already been received:

- Pneu-C-20 should be given at a minimum interval of eight weeks between doses.

If Pneu-P-23 has already been received:

- Pneu-C-20 should be given at least one year after receiving Pneu-P-23.
- If rapid completion is required (for adults only), an interval of eight weeks can be used.

Note: This does not apply to people who have had a hematopoietic stem cell transplant (HSCT). Refer to immunization schedule for more information.

Is a booster recommended for Pneu-C-15 (Prevnar 15™) or Pneu-C-20 (Prevnar 20™)?

No boosters are recommended after the single dose for adults or series for children has been completed.

Questions?

Talk to your health care provider or contact Public Health at 519-575-4400

Resources:

- **Canadian Immunization Guide recommendations for pneumococcal vaccines:**
[Pneumococcal vaccines: Canadian Immunization Guide - Canada.ca](#)
- **Publicly funded immunization schedule for pneumococcal vaccines in Ontario** [Vaccine resources for professionals | ontario.ca](#)

Alternate formats of this document are available upon request.

**Region of Waterloo Public Health
and Paramedic Services**

Infectious Disease

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