

# Invasive pneumococcal disease in adults 18+ with underlying medical conditions and adults 65+: What you need to know

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This factsheet is intended for patients and provides an overview of invasive pneumococcal disease (IPD) for adults aged 18 years and older with underlying medical conditions and for adults aged 65 years and older. It explains the difference between pneumococcal disease and invasive pneumococcal disease, how the disease spreads, its symptoms, and the risks it poses to adults at increased risk. The factsheet also highlights the importance of adult immunization against pneumococcal disease to help prevent serious infection.



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## What is invasive pneumococcal disease (IPD)?

To understand what invasive pneumococcal disease is, we first need to understand what pneumococcal disease is.

Pneumococcal disease is a contagious infection caused by the bacteria *Streptococcus pneumoniae*. Around 100 different types of *Streptococcus pneumoniae* bacteria have been identified, with 15 types causing most pneumococcal infections worldwide. While pneumococcal disease can result in milder illnesses, such as ear and sinus infections, severe infection can lead to pneumonia (a lung infection), meningitis (a brain infection), and blood infections (bacteremia). [Severe infections caused by \*Streptococcus pneumoniae\* – when the bacteria invade major organs and systems – are referred to as invasive pneumococcal disease \(IPD\).](#)

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IPD is a major cause of illness and death worldwide. Two of the groups most affected in Canada are adults 65+ and people with underlying medical conditions, including people who are immunocompromised and people who have certain chronic medical conditions such as diabetes or liver, lung, or heart disease.

## Memory aid

**Table 1:** Pneumococcal disease vs. invasive pneumococcal disease

Name of infection	Cause of infection	Result of infection
Pneumococcal disease	<i>Streptococcus pneumoniae</i> bacteria	Milder illnesses, such as: <ul style="list-style-type: none"> <li>• sinus infections</li> <li>• ear infections</li> <li>• bronchitis</li> </ul>
Invasive pneumococcal disease	<i>Streptococcus pneumoniae</i> bacteria	Severe, life-threatening illnesses that affect major organs and systems, such as: <ul style="list-style-type: none"> <li>• pneumonia (lung infection)</li> <li>• meningitis (brain infection)</li> <li>• blood infections (bacteremia/sepsis)</li> </ul>

## How is pneumococcal disease spread?

Pneumococcal bacteria enter your body through your mouth and nose through infected droplets (mucus or saliva). Pneumococcal disease/bacteria spreads:

- through close contact with anyone infected (e.g., when an infected person coughs or sneezes near you)
- by sharing personal items, such as drinks
- through contact with contaminated surfaces (e.g., touching a countertop contaminated with the bacteria)

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Many adults and children who come into contact with pneumococcal bacteria will carry it in their nose and throat without showing signs or symptoms. As long as the bacteria remain in their nose or throat, they can spread the disease.

IPD is most common in Canada during the winter and spring.

## What are the symptoms of invasive pneumococcal disease (IPD)?

The IPD symptoms you experience depend on the type of invasive pneumococcal illness you develop.

If you develop pneumonia as a result of pneumococcal bacteria, known as [pneumococcal pneumonia](#), symptoms can include:

- fever and/or chills
- shortness of breath/difficulty breathing
- cough
- chest pain
- lack of energy and/or appetite

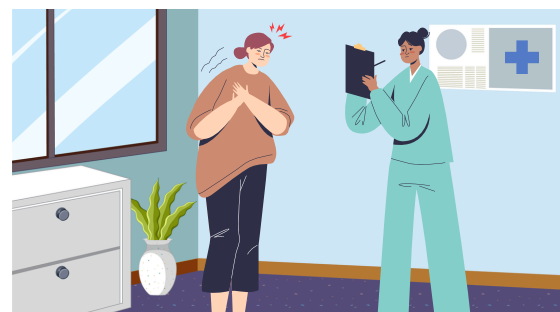
If you develop meningitis as a result of pneumococcal bacteria, known as [pneumococcal meningitis](#), symptoms can include:

- fever
- headache
- stiff neck
- sensitivity to light

If you develop a blood infection as a result of pneumococcal bacteria, symptoms can include:

- fever and/or chills
- sweating/clammy skin
- confusion
- shortness of breath/difficulty breathing
- rapid heart rate
- extreme pain or discomfort

Symptoms of IPD may appear within a timeframe as short as 1 to 3 days after becoming infected with pneumococcal bacteria.



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## How at risk are adults 65+ and people with underlying medical conditions?

Pneumococcal pneumonia is the most common form of invasive pneumococcal disease (IPD) among adults. People sick with viral infections such as influenza are at increased risk of developing pneumococcal pneumonia as a co-infection. From 2015 to 2024, influenza and pneumococcal disease combined were routinely one of the top ten leading causes of death in Canada, with adults 65+ being the most at risk.

Death occurs in around 5% to 7% of people who simultaneously develop pneumococcal pneumonia and pneumococcal bacteremia (a blood infection), with this number being higher among adults 65+ and adults with multiple underlying medical conditions.

For adults who develop pneumococcal meningitis, the disease is fatal in around 22% of cases. For children, pneumococcal meningitis is fatal in around 8% of cases. People who survive pneumococcal meningitis infection commonly have permanent brain damage as a result.



**Table 2:** Underlying medical conditions that put you at highest risk for invasive pneumococcal disease (IPD)

Immunocompromising conditions	Non-immunocompromising conditions
Sickle cell disease, asplenia, or splenic dysfunction	Chronic cerebrospinal fluid (CSF) leak
If you were born with a condition that weakens your immune system (also known as congenital immunodeficiencies)	Any chronic neurologic condition that makes it difficult to clear excess saliva from your mouth (e.g., Parkinson's disease or cerebral palsy)

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Immunocompromising conditions	Non-immunocompromising conditions
Receiving immunocompromising therapies within the last 2 years (corticosteroids, chemotherapy, radiation, post-transplant therapy)	Cochlear implants, including adults who will be receiving implants
HIV infection	Chronic heart disease
If you received a hematopoietic stem cell transplant (HSCT)	Diabetes mellitus
Cancer, including leukemia and lymphoma	Chronic kidney disease
Nephrotic syndrome	Chronic liver disease, including liver cirrhosis (any cause)
Being a candidate for, or recipient of, solid organ or islet transplant	Chronic lung disease, including asthma if you required medical care related to your asthma in the past 12 months

## Pneumococcal immunization in adults and people with underlying medical conditions

Anyone 18 years of age and older with an underlying medical condition that puts them at higher risk for IPD should receive one dose of the pneumococcal vaccine, regardless of their previous pneumococcal immunization history.



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All adults 65+ should receive one dose of the pneumococcal vaccine, regardless of their previous pneumococcal immunization history.

## Are you protected against invasive pneumococcal disease?

Pneumococcal vaccines are safe and the best way to protect against invasive pneumococcal disease.

Talk to your doctor, nurse, pharmacist, or local public health office about getting the pneumococcal vaccine for yourself or your child.



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