

Meningococcal Disease

What is invasive meningococcal disease?

Invasive meningococcal disease (IMD) is a bacterial infection that can cause serious and life threatening illness, including meningitis and meningococemia (a severe blood infection). Meningitis is an infection of the fluid and lining around the brain, and can result in brain damage and deafness. Meningococemia can cause low blood pressure, critical organ failure and loss of limbs.

These infections are rare but can be life threatening and need immediate medical attention. Even with treatment, 10 percent of meningitis and 30 percent of meningococemia cases are fatal.

In Canada, most infections are due to four types of the bacteria: groups B, C, W and Y.

IMD cases occur year round, but are more common in the winter months.

How does meningococcal infection spread?

Meningococcal bacteria are spread from person to person by coughing, sneezing or close face-to-face contact. They can also be spread through saliva. This can occur through activities such as kissing or sharing food, drinks, cigarettes, lipsticks, water bottles, mouth guards used for sports or mouthpieces of musical instruments.

The bacteria can live in the nose and throat of an otherwise healthy person. The bacteria can be spread to others by someone who has no symptoms.

What are the symptoms of meningococcal disease?

Symptoms of meningococcal disease develop 2 to 10 days after infection.

These symptoms include:

- Sudden fever
- Drowsiness
- Irritability or fussiness in babies
- Intense headache
- Sensitivity to light
- Nausea and vomiting
- Stiff neck

- A skin rash that spreads rapidly and begins as reddish/purplish spots that don't disappear when pressed

Who is most at risk of meningococcal disease?

While persons of any age can get meningococcal disease, infections are most common in young children, older adolescents, and adults over 60 years.

Some medical conditions increase the risk of infection:

- Persistent complement component deficiency
- Complement inhibitor medications such as the drugs eculizumab (Soliris®) and ravulizumab (Ultomiris®) used to treat the following rare medical conditions:
 - Paroxysmal nocturnal hemoglobinuria
 - Atypical hemolytic uremic syndrome
 - Generalized myasthenia gravis
 - Neuromyelitis optica spectrum disorder
- Not having a spleen or a spleen that isn't functioning properly due to trauma, surgical removal or diseases like sickle cell anemia

- HIV infection

Other risk factors include:

- Living in crowded quarters, for example military personnel and post-secondary students living in residences
- Smoking or exposure to second hand smoke
- Viral respiratory tract infections such as influenza

Meningococcal disease is more common in some parts of the world. The highest rates of meningococcal disease occur in the "meningitis belt" of the sub-Saharan Africa region, which extends from Senegal to Ethiopia. Type A has been the most common type causing epidemics in this region. However, in recent years there have been epidemics caused by types C, W and Y. Traveling to these regions increases your risk of meningococcal disease.

How to prevent meningococcal disease?

Immunization is the best way to prevent meningococcal disease.

In B.C., 2 meningococcal vaccines are provided free as part of the routine immunization schedule:

- The meningococcal C vaccine for infants for protection against type C
- The meningococcal quadrivalent vaccine for students in grade 9 for protection against types A, C, Y and W. The vaccine is also provided to people with certain medical conditions that puts them that at high risk of meningococcal disease

There are 2 meningococcal B vaccines for protection against type B but they are not currently part of the routine immunization program. The meningococcal B vaccine is provided for free to those 2 months of age and older who have been in close contact with a case of meningococcal B disease.

Immunization against meningococcal disease is recommended but not provided free for:

- Laboratory workers routinely exposed to meningococcal bacteria
- Military personnel
- Those travelling to an area where the risk of meningococcal disease is high, such as sub-Saharan Africa

People who are not eligible for the free vaccines can buy the vaccines at most pharmacies and travel clinics.

What should you do if you have been exposed to someone with invasive meningococcal disease?

People who have been in close contact with a person with IMD should get antibiotic treatment as soon as possible to help prevent the disease. Examples of close contact include:

- People living in the same household
- Roommates
- Direct contact with the infected person's oral secretions (saliva or spit)

Public health or your health care provider will recommend who should get antibiotics. As well as giving antibiotics, once the type of the infection is known, meningococcal immunization will be offered.

If you develop symptoms of IMD, seek medical attention immediately. Inform the health care team that you have been exposed to a person with IMD.

