

INVASIVE MENINGOCOCCAL DISEASE

What is invasive meningococcal disease?

Invasive meningococcal disease (IMD) is caused by an infection with *Neisseria meningitidis* bacteria. This bacteria can lead to life threatening infections such as meningococcal meningitis and meningococemia.

- Meningitis is an inflammation of the tissues that cover the brain and spinal cord
- Meningococcal meningitis is a severe type of meningitis
- Meningococemia is an infection of the blood

This bacteria can normally be found in the back of the throat or nose and rarely invade the body to cause infection. IMD is an uncommon but serious disease that results in death in eight to 15% of cases. In addition, 10 to 20% of people who survive the illness have long-term health consequences.

What are the symptoms of invasive meningococcal disease?

The symptoms of meningitis and meningococemia are listed below. They can be very similar to flu or other viral infections. Symptoms may develop two to 10 days after exposure.

Symptom	Meningitis	Meningococemia
Fever	✓	✓
Drowsiness	✓	✓
Irritability, agitation, fussiness	✓	✓
Severe headache	✓	✓
Nausea and/or vomiting	✓	✓
Stiff neck	✓	
Photophobia (sensitivity to light)	✓	
Altered mental state	✓	
Rash (does not fade under pressure) (occasional)		✓
Pain in muscles, joints and abdomen		✓

In addition to these symptoms, infants may develop difficulty waking, difficulty feeding and bulging fontanelle.

How do invasive meningococcal bacteria spread?

The meningococcal bacteria is spread by direct contact with respiratory droplets, mucus and/or saliva from an infected person. Coughing, sneezing, sharing of food, utensils, cigarettes, or drinks and kissing are ways of passing on the bacteria. A person can be infectious up to seven days before developing symptoms to 24 hours after starting appropriate antibiotic treatment. It can take two to 10 days for symptoms to develop after exposure to someone with IMD.

People who have had **close or direct** exposure to a person with IMD within seven days before the onset of symptoms are at risk. Close

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contacts include individuals living in the same household; daycare, nursery and kindergarten school contacts; medical and emergency personnel who were directly exposed to oral/nasal secretions and intimate contacts. Normal school classroom exposure is not considered a close contact.

How is invasive meningococcal disease prevented?

There are several vaccines in Canada used to prevent IMD. People who have been in close contact with someone with IMD should immediately call their doctor as they may need vaccines and antibiotics to protect against becoming ill. Casual contacts such as classmates and co-workers do not need preventive antibiotics.

It is important that the vaccine matches the type of bacteria in the person with IMD. Receiving a vaccine that does not match can delay the administration of the correct vaccine from two weeks to six months. Your physician can contact York Region Public Health to identify which vaccine is right for you.

Menjugate® and **NeisVac-C®** vaccines protect against *Neisseria meningitidis* serogroup C bacteria and provide high levels of long-term protective antibodies:

- Both vaccines are intended for infants and children and work equally well
- Only one dose is needed for people one year of age and older
- Side effects may include redness, tenderness or swelling at the injection site or headache. Rarely, there may be serious side effects, such as fever, hives or difficulty breathing
- Included in the routine vaccination program given at 12 months of age or older

Note: Infants under one year of age can receive these vaccines but will require more than one dose. Only one dose is funded under Ontario's Publicly Funded Immunization Schedule.

The **Menactra®** vaccine protects against groups A, C, Y and W-135 of the *Neisseria meningitidis* bacteria:

- It can be given to people between the ages of two and 55 years old
- One dose is required for protection against all four strains
- Side effects may include tenderness, swelling and redness at the injection site. In young children, irritability and drowsiness may also occur
- Included in the routine vaccination program given to students in grade 7 to 12

The **Bexsero®** vaccine protects against the group B strain of *Neisseria meningitidis*:

- It is recommended for certain high-risk individuals between two months and 17 years of age
- A minimum of two doses are required, at least one month apart
- Side effects may include pain and swelling at the injection site, fever, fatigue or headache
- Not included in the routine vaccination program

What is the treatment for invasive meningococcal disease?

Antibiotic medications are commonly used to treat IMD. People who have had close or direct exposure to a person with meningococcal disease should call their doctor immediately. Early recognition of meningococcal infection and prompt treatment greatly improves chances of survival.