

Haemophilus influenzae Type b (Hib)

Haemophilus influenzae disease is a name for any infection caused by bacteria called *H. influenzae* (Hi). These infections can cause mild disease, like ear infections, while others cause more serious disease.



What is Haemophilus Influenzae Type b?

Type b (known as **Hib**) can cause serious and life-threatening infections by affecting parts of the body that are normally free from germs (such as blood and spinal fluid). These types of infection are called 'invasive disease.' Children under five years of age are especially at risk for invasive disease following Hib infection. Before the vaccine, one in every 300 Canadian children developed a severe Hib infection by five years of age.

How is Haemophilus influenzae spread?

Hi bacteria are spread from person to person through the nose or mouth. They can be passed through:

- being near an infected person who coughs or sneezes
- touching objects that were recently exposed to an infected person's mucus or saliva (such as shared utensils, cups, tissues or toys) and then rubbing your eyes, nose or mouth

Symptoms usually appear between two and four days after a person is exposed to the infection. Infected persons can transmit disease for as long as they have Hi bacteria in their body, which may be for a very long time. Most of the time, the bacteria are spread by people who have the bacteria in their noses and throats but who are not sick.

Prevention

You can protect against Hib with a safe and effective vaccine.

The vaccine is given at:

- two months, four months, six months and 18 months



Is it serious?

Babies and children under five years of age are at the highest risk of developing invasive disease following infections with Hi bacteria. They are also most likely to have complications from invasive disease, including:

- meningitis (infection of the fluid and lining around the brain and spinal cord)
- pneumonia (infection in the lungs)
- bacteremia (infection of the blood)
- epiglottitis (swelling in the throat that makes it hard to breathe)
- infections of the joints, bones, and covering of the heart
- death

Hi disease is treated with antibiotics. Most cases of invasive disease require care in a hospital. Even with treatment, about one in 20 children with *Haemophilus influenzae* Type b meningitis will die. In children who live, about one in three will have permanent brain damage.

Since the vaccine was introduced, reported cases of invasive Hib disease in Canada have decreased by

95%



Symptoms

Invasive Hib disease causes different symptoms, depending on which part of the body is affected.

The most common type of invasive Hib disease is meningitis. Symptoms can include:

- sudden fever
- headache
- confusion
- stiff neck
- increased sensitivity to light

In infants, the common symptoms may be difficult to notice. Symptoms may include irritability (feeling crabby or in a bad mood), difficulty waking, difficulty feeding, and vomiting.

Pneumonia happens when Hib bacteria infect the lungs. Symptoms usually include:

- fever and chills
- cough
- trouble breathing
- sweating
- chest pain
- headache
- muscle pain
- excessive tiredness

Bacteremia from Hib can happen with or without pneumonia, and can cause symptoms such as:

- fever and chills
- feeling very tired
- stomach pain
- nausea and vomiting
- diarrhea
- trouble breathing
- confusion



Stay up to date with your vaccinations

Before the introduction of Hib vaccines, Hib was the most common cause of bacterial meningitis and a leading cause of other serious invasive infections in young children.

Being fully vaccinated offers the best protection against Hib disease. However, the Hib vaccine does not prevent disease caused by the other types of H. influenzae.

The vaccines are part of the publicly funded vaccine schedule and are offered free to all people in Ontario. Children five years of age and older, and adults who are at risk of invasive Hib disease due to a chronic medical condition, should receive a single dose of the vaccine if they are at risk of getting the disease and have not been previously vaccinated.

People who are at increased risk may have the following chronic conditions:

- a weakened immune system
- cancers of the blood
- human immunodeficiency virus (HIV)
- a non-functioning or missing spleen

What are the risks?

Hib is serious and still common around the world in countries without Hib vaccination programs. Unvaccinated children under five years old are at the highest risk of invasive disease. In Canada, Hib disease occurs mostly in under-immunized children and in infants who are too young to have completed their primary immunization series.

Your child can get Hib by being around other children or adults who may have the bacteria and not know it.

Hib can be prevented by Hib vaccines. Vaccinating babies protects them at a time when they have the highest risk of getting the disease and suffering the most dangerous symptoms.

It takes all of us to protect each of us.

Talk to your health care provider or your local public health unit about the Hib vaccine.